DOCUMENT RESUME

ED 025 363 24 RC 003 110

By- Schroeder, Glenn B.; And Others
Classroom Strategies: Behavioral Objectives. Volume 2.
Southwestern Cooperative Educational Lab., Albuquerque, N. Mex.
Spons Agency- Office of Education (DHEW), Washington, D.C. Bureau of Research.
Bureau No- BR-6-2827
Pub Date Jun 68
Contract- OEC-4-7-062827-3078
Note- 158p.
EDRS Price MF-$0.75 HC-$8.00
Descriptors- *Behavioral Objectives, Behavior Change, *Cognitive Processes, Course Objectives, Culture Free Tests, *Curriculum Development, Educational Objectives, Innovation, *Lesson Plans, Minority Groups, *Psychomotor Skills, Taxonomy, Teacher Participation

A baseline curriculum guide developed by the Southwestern Cooperative Educational Laboratory in 1967 provides concomitant behavioral objectives for a full-year first grade program. The document contains discussions relevant to the development of behavioral objectives, including the need for such objectives, the rationale for their development, a discussion of the three domains (cognitive, affective, and psychomotor), the self-fulfilling prophecy phenomenon and self-concept, and testing students from other cultures and subcultures. Implications and strategies pertaining to curriculum development are emphasized. Teachers' evaluations of the standardized materials incorporated into the resultant curriculum are given. Condensed versions of the three taxonomies are presented as well as lesson plans, a bibliography, and a suggested reading list. Related documents are RC 003 109 and RC 003 111. (DK)

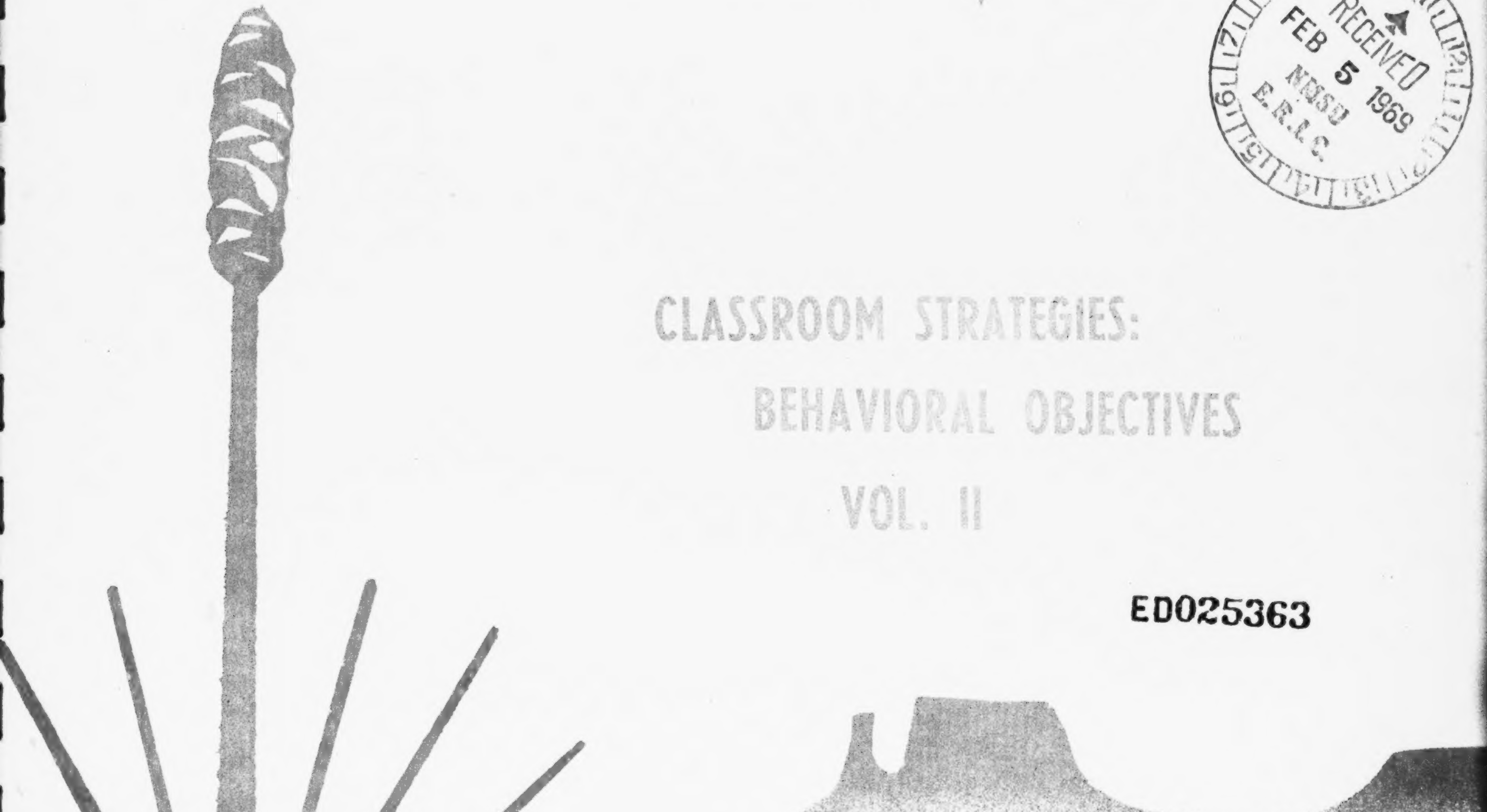
BR-6-2827
PA-24
OE-BR

SOUTHWESTERN COOPERATIVE EDUCATIONAL LABORATORY, INC.
Arizona New Mexico West Texas Oklahoma
INNOVATION DISSEMINATION RESEARCH
SWCEL

RECEIVED
FEB 5 1969
NDSSD
E.R.I.C.

CLASSROOM STRATEGIES:
BEHAVIORAL OBJECTIVES
VOL. II

ED025363



RC003110

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

CLASSROOM STRATEGIES: BEHAVIORAL OBJECTIVES

By Glenn B. Schroeder and Katherine A. Bemis

with:

Eleanor Leventhal
Asifa Rahman
Madeleine Speiss
Richard Thiel

Editor Consultant: Jules Shrage

Southwestern Cooperative Educational Laboratory, Inc.
117 Richmond Drive, N. E.
Albuquerque, New Mexico 87106

This publication is issued pursuant to terms of Contract No. OEC-4-7-062827-3078 with the Bureau of Research, Office of Education, U. S. Department of Health, Education and Welfare.

TABLE OF CONTENTS

Page

PREFACE

LIST OF FIGURES

INTRODUCTION 3

Chapter

I THE NEED FOR BEHAVIORAL OBJECTIVES 9

Some Procedures and Practices Involved in Developing Educational Practice 9

Rationale for Behavioral Objectives 19

II THE THREE DOMAINS: COGNITIVE, AFFECTIVE, AND PSYCHOMOTOR 25

Cognitive Domain 25

Affective Domain 35

The Self-fulfilling Prophecy Phenomenon and Self-concept 41

Psychomotor Domain 49

III TESTING STUDENTS FROM OTHER CULTURES AND SUBCULTURES 53

The Testing Program 53

IV TRENDS AND STRATEGIES IN CURRICULUM DEVELOPMENT 65

Strategies for Curriculum Development 71

Teacher Evaluation of the Standardized Curriculum Materials 74

V IMPLICATIONS 81

APPENDIX A TAXONOMY OF THE COGNITIVE DOMAIN 89

APPENDIX B TAXONOMY OF THE AFFECTIVE DOMAIN 97

APPENDIX C TAXONOMY OF THE PSYCHOMOTOR DOMAIN 105

APPENDIX D LIST OF STANDARDIZED MATERIAL, LESSON PLANS AND BEHAVIORAL OBJECTIVES 117

BIBLIOGRAPHY 169

SUGGESTED READING LIST 173

LIST OF FIGURES

1. Steps on the Road from Pure-Science Research to Established Educational Practices 10

2. General Model of Educational Research 13

3. Strategies of Innovation 14

4. Cognitive Map--Activities and Processes 73

ERRATA

Page numbers not used	7, 8, 115, and 116
Page 12, line 3	Change "the end" to "that end"
Page 61, line 8	Change "classroom" to "classrooms"
Page 91, line 1	Change "CATAGOREIS" to "CATAGORIES"
Page 119, lines 4 and 8	Change "Bundett" to "Burdett"

PREFACE

Behavioral objectives and their use in teaching was one of the first topics to which attention was given in SWCEL research. Regular in-service study sessions on the development and use of behavioral objectives in teaching were sponsored in the SWCEL Beacon Schools in the four-state region.

This manual represents a compilation of SWCEL experience plus information and suggestions from many outside sources. It should provide the teacher with the latest and most complete guidelines available on the development and application of behavioral objectives to classroom instruction. It covers the cognitive, affective, and psychomotor domains of learning. To the extent possible, it is made particularly applicable to pupils from minority cultures.

The authors are commended for this excellent effort toward something which has seemed so obvious for so long. It is hoped that teachers find it useful.

Paul V. Petty

Paul V. Petty
Director

Albuquerque
June 1968

It is my impression that no one really likes the new. We are afraid of it. It is not only as Dostoyevsky put it that "taking a new step, uttering a new word is what people fear most." Even in slight things the experience of the new is rarely without some stirring of foreboding.

Eric Hoffer (1952)

INTRODUCTION

The importance of stating educational goals in specific behavioral terms has been increasingly emphasized during the Twentieth Century. Teachers have said, "I know what my goals for my students are. I want them to be able to get along with each other. I want them to seek knowledge. They must learn to read, to write, to count . . ." This list of verbal goals could go on and on. Students in colleges of education throughout America are told about the wisdom of creating objectives for the pupils. Yet, it is the rare teacher who lays out her teaching program in behavioral terms.

The idea of behavioral objectives is not a new one. What is new is the idea of a group of teachers sitting down together and actually writing lesson plans and behavioral objectives.

In April, 1967, SWCEL undertook to dispel a fear of the new. The following is a brief history of Module B as it pertains to the development of a baseline curriculum with concomitant behavioral objectives for a full year first-grade program.

At a general meeting in each of five schools, the first portion of the project was explained to all of the first-grade teachers. Those who volunteered to participate in the project would be asked to devise a curriculum for the school year (1967-1968). This would be utilized by all of the teachers during the forthcoming school year. Eight teachers from four schools volunteered to participate in this venture.

These teachers reported to SWCEL in June of 1967. Convening in a large room they spent the summer together investigating the various curriculum materials made available to them and writing daily lesson plans. They criticized and finally selected a common set of textbooks. Lesson plans were written for particular subjects by each teacher who had evidenced an interest or expertise in a certain subject. For example, one teacher wrote all of the lesson plans for reading, another for social studies, another for mathematics, etc. When the lesson plans were completed for a short interval, perhaps a week, the teachers discussed and evaluated the lesson plans.

The value of this type of meeting is evident in the fact that each teacher was given the opportunity to criticize an aspect of the lesson plans or curriculum with which she did not agree. The teachers ranged in experience from one year to twelve years. The experiences of the teacher with fresh ideas straight from school were combined with the practical experiences of the teacher who had taught for a number of years.

In August, 1967, the teachers began devising behavioral objectives for the children to accompany their lesson plans. Although these teachers all had "in mind" various goals for their students, "taking a new step" (writing down objectives) appeared awesome to the teachers. Using Mager's book[22], Preparing Instructional Objectives, as a basic text, the teachers formulated objectives for their specific subjects. Before the first day of school, 75 days of lesson plans, accompanied by behavioral objectives, had been agreed upon by the teachers and were ready for use. Textbooks and audiovisual materials were in readiness.

This volume is dedicated to those eight teachers. Their pioneering efforts have made it possible to disseminate the knowledge contained

herein, and is a direct result of their outstanding contributions to the field of educational research.

Any theory about education is closely related to the purposes of education. In America we are determined that these purposes be in accordance with our democratic traditions, placing emphasis upon the unique and precious nature of each human being. The fundamental aims and objectives of education in this country, therefore, must find their source and their strength in the minds and hearts of the people who are served by the schools. Beyond this, there are practical considerations involved in selecting aims and objectives. We must have means at hand to determine whether our objectives can be attained, whether the techniques by which we strive to attain them are effective, and whether all possibilities for improvement have been adequately explored.

Nolan C. Kearney (1953)

CHAPTER I

THE NEED FOR BEHAVIORAL OBJECTIVES

Some Procedures and Practices Involved in Developing Educational Practice

Classroom practice should be based upon available evidence from research. The rationale underlying the development of behavioral objectives and classroom management was developed through research. All too often, there is a chasm between this evidence and practice. Hopefully, a discussion of research procedures and the important role teachers should play therein may be of assistance in bridging this chasm.

Teachers usually are involved in the technological research and development phases (Steps 4, 5, and 6) of the research cycle (as shown in Figure 1). The very nature of their profession is likely to preclude experiences in pure research unless they pursue such activities in their off time.

A brief overview of these research steps may be of interest to the reader and may help crystallize his thinking on the process.

The pure or basic research phase is characterized by the investigation of problems which may or may not have immediate practical applications. This does not necessarily mean that the investigator is interested only in theoretical problems; it is just that he uses procedures appropriate to the problems on which he words.

Expanding the three steps of pure research of learning we find:

Step 1. Animal studies, biochemical studies, and physiological investigations on learning with no regard for their educational relevance.

7/9

Steps on the Road from Pure Science Research*
to Established Educational Practices

PURE RESEARCH			TECHNOLOGICAL RESEARCH AND DEVELOPMENT		
Not Directly Relevant	Relevant Subjects and/or Topics	School-relevant Subjects and Topics	Laboratory, Classroom, & Special Teacher	Tryout in "Normal" Classroom	Advocacy and Adoption
Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Animal Mazes, Eyelid Conditioning, Pursuit Learning, etc.	Human Verbal concept formation, etc.	Mathematics, Reading, Typing, etc.	Programmed Instruction; Language Laboratory, in Early Stages	Results of Step 4 Tried in Regular Setting	Manuals and Textbooks Prepared; Teacher Training Undertaken

*Hilgard[16]

Figure 1

Step 2. Principles being tested here are likely to be theoretical. It is research on learning. It is not concerned with educational practices, but deals with human subjects and with content nearer to that taught in school.

Step 3. Although no attention is paid to adapting the results to school practices, the research on learning in this step is relevant because the subjects usually are school-age children and the material learned is school subject matter or skills.

The problems investigated in these steps are inferred from theoretical issues rather than from the practical needs of instruction. The important point is that the results of pure research can be used to form hypotheses for experimentation on issues of practical importance for the classroom.

Focusing now on the applied or the technological research and development phase, the steps may be elaborated as follows:

Step 4. Research is conducted in laboratory classrooms utilizing highly skilled teachers and a few students. These studies usually are to determine the possible feasibility of particular programs or procedures.

Step 5. Whatever is found feasible in Step 4 must be tried out in a typical classroom situation.

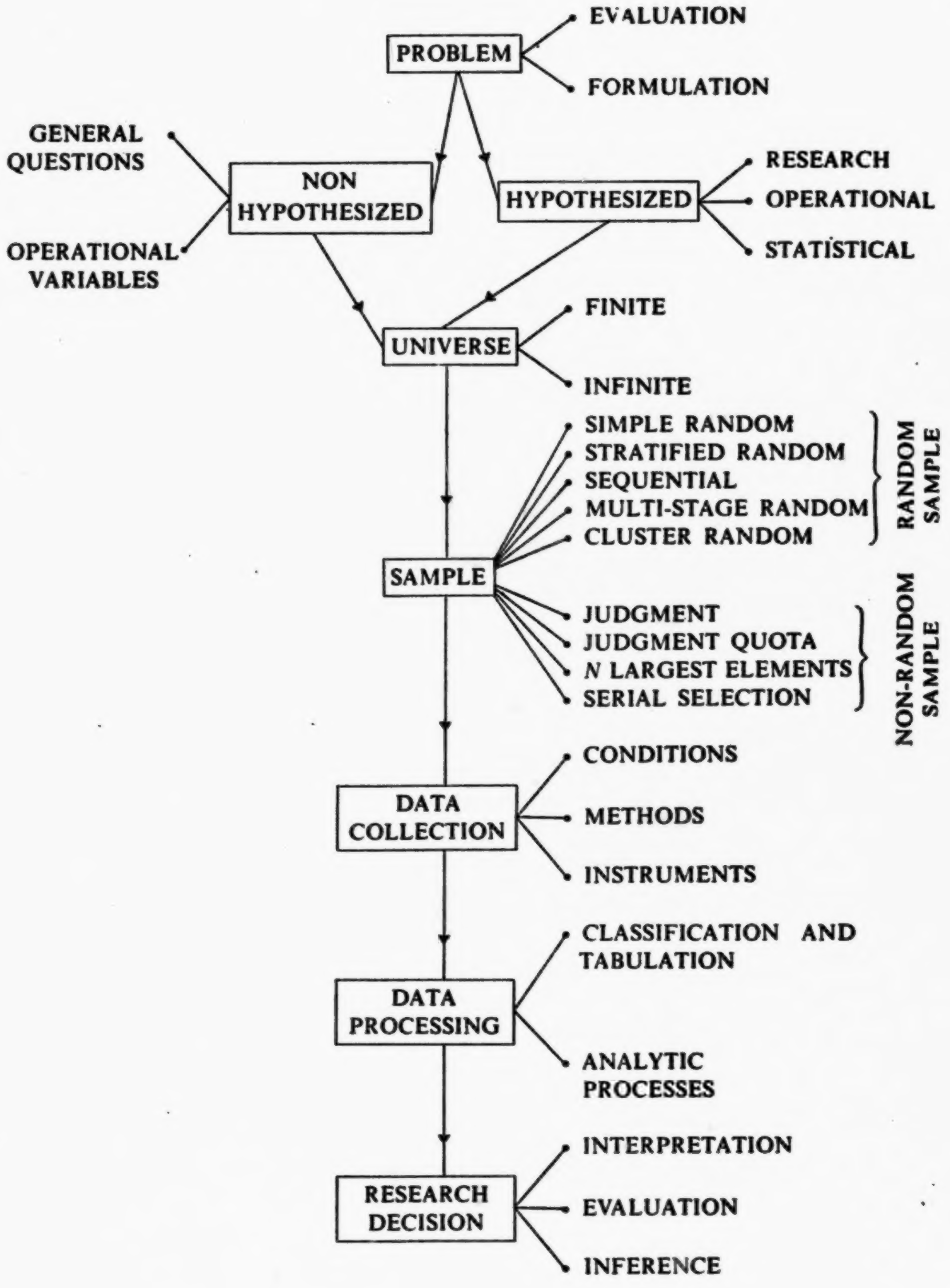
Step 6. The methods and content found feasible in Steps 4 and 5 have to be "packaged" for dissemination and must go through the process by which they are adopted by those not involved in the experimentation.

At this point, one can see the relevant relationship of one step to another in the proper sequence as well as the relationship of Step 1 to Step 6. However, if one were to review past literature, it would be safe to say that too much research has been terminated at Steps 1 and 2, especially the studies of experimental psychologists. Even educational psychologists tend to experiment at the end of the continuum, and then leap to Step 6 without testing and developing at Steps 4 and 5. It is not good scientific practice to extrapolate from rats or flatworms to the normative world of school children. Fortunately, many trained scientists realize the dangers of such practices and refrain from leaving out the developmental steps. They are willing to investigate the feasibility of applying their theoretically derived laboratory findings to daily classroom procedures.

Educational research is no easy task. For each step shown in Figure 1, a general procedure as shown in Figure 2 must be followed. Through the processes of interpretation, evaluation, inference, and accepting or rejecting hypotheses (Research Decision) in one step, new problems and hypotheses are formulated for the next step in the research sequence.

Interwoven with the research process is innovation and dissemination. This relationship can be readily seen in Figures 1 and 3. The teachers, supervisors, and administrators involved with any Demonstration Center activities are involved in Steps 5 and 6 of the research cycle and, simultaneously, in Steps 3, 4, and 5 of the innovation cycle. To a certain extent, SWCEL has been involved in all of the steps in innovation with regard to the Integrated Plan materials and procedures. It is a responsibility of the personnel attending the two Demonstration Centers to bear the major burden of innovation and dissemination.

General Model of Educational Research*


PROBLEM
EVALUATION
FORMULATION
GENERAL QUESTIONS
OPERATIONAL VARIABLES
NON HYPOTHESIZED
HYPOTHESIZED
RESEARCH
OPERATIONAL
STATISTICAL
UNIVERSE
FINITE
INFINITE
SAMPLE
SIMPLE RANDOM
STRATIFIED RANDOM
SEQUENTIAL
MULTI-STAGE RANDOM
CLUSTER RANDOM
RANDOM SAMPLE
JUDGMENT
JUDGMENT QUOTA
N LARGEST ELEMENTS
SERIAL SELECTION
NON-RANDOM SAMPLE
DATA COLLECTION
CONDITIONS
METHODS
INSTRUMENTS
DATA PROCESSING
CLASSIFICATION AND TABULATION
ANALYTIC PROCESSES
RESEARCH DECISION
INTERPRETATION
EVALUATION
INFERENCE

*Hill and Kerber, 1967

Figure 2

Strategies of Innovation

Step 1	Step 2	Step 3	Step 4	Step 5
Research-based program validated by tryout	"Package" the program: materials, guides, etc.	Testing materials: evaluate to determine if objectives are realized	In-service training program: prevent values of program, instruct in new procedures, enlist support	Develop support for program from communities, School Board, parents

Schroeder (1968)

Figure 3

Some parents object to their children being the "subjects" of educational experiments conducted in the classroom. These parents say they are not raising their children to be guinea pigs. This is one of the points at which the need becomes obvious for intelligent participation by citizens in educational policy-making.

Competent educators make sure that educational experimentation is carefully done and that procedures are thoroughly assessed and reassessed before action is taken. Most of the necessary research will not disturb citizens, parents, or teachers, particularly if the purposes and procedures are even briefly reviewed.

A most important item for both educators and parents to remember with respect to experimentation in the schools is that carefully planned experiments with children in actual classroom situations can lead to improvement of the methods and materials of instruction.

Unfortunately there is often a division between the educational theorists and researchers on one hand and the practitioners in the schools on the other. Teachers, supervisors, and principals frequently are heard to say that research and theory are all well and good, but the theorists should go into the schools to see what the real problems are when a teacher is faced with 30-35 students. This, of course, is a misunderstanding of both theory and practice. Fortunately, as more and more practitioners become involved in action research, dissemination, and innovation (the Demonstration Center, for example) this division will cease to exist.

The experimental approach, the planning of educators and researchers, and the understanding of the patrons of the school will result in better education for all of our children. A case in point is the development and use of behavioral objectives by classroom teachers.

An objective is "an aim or end of action; point to be hit, reached, etc."

Webster's Collegiate Dictionary (5th ed., 1947)

Rationale for Behavioral Objectives

The primary responsibility for educating America's children rests with the teacher. With the teacher rests the burden of determining what the children should learn in the classroom, why they should learn it, how they should learn it, and even if they will learn it.

The classroom teacher must make judgments about how to present subject material to his pupils. This, of course, implies that he has some idea of what his educational goals for the children are. In making judgments, the teacher must not only decide what subject matter he will teach, but also define the desired outcomes of the educational process. These decisions not only have implications for pupil learning, commonly known as "book learning" but also have broad implications for those outcomes of instruction which emphasize emotions or degree of acceptance or rejection.

The teacher who denotes objectives for pupil learning finds it easier to make curricular decisions and to prepare evaluative measures of the pupils' progress.

Before accurate and unbiased evaluation is possible, specific overt behavior, amenable to quantification, must be designated.

Mager[22] defines an objective as

> . . . an intent communicated by a statement describing a proposed change in a learner--a statement of what the learner is to be like when he has successfully completed a learning experience. It is a description of a pattern of behavior (performance) we want the learner to be able to demonstrate.

When teachers begin to rely upon behavioral objectives, vague intuitive and subjective interpretations of pupil achievement will be minimized, permitting relatively precise evaluations. Essentially this procedure involves specification of the fundamental operations (including instruments, manipulations, measurements of recording procedures used in the process of observation, etc.) by which the teacher may potentially discern the presence or absence of the phenomenon denoted by a concept.

The first question the teacher must ask is, "What is it I want to measure?" Once the desired attribute has been defined, the specification of operations the students must perform should follow. For example, if students are expected to memorize a passage or list of words, it will first be necessary to operationally define what is meant by memorization (e.g., does it involve verbal recitation or written response?). Once this is established, a quantitatively designated performance criterion must be set to maximize objectivity and minimize alternate explanations of the empirical outcomes. In this way, the teacher lists expected pupil performance by objectively specifying those fundamental operations that students are to perform to accomplish the task or criterion specified.

Precise specification of educational goals tends to minimize the variability of interpretations, thus permitting the teacher to vigorously assess the adequacy of her program and objectively test the efficacy of her teaching strategies.

Mager[22] has compiled the following four criteria for writing behavioral objectives which the teacher might use as a starting point:

1. An instructional objective describes an intended outcome rather than a description or summary of content.

2. A characteristic of a usefully stated objective is that it is stated in behavioral, or performance, terms that describe what the

learner will be doing when demonstrating his achievement of the objective.

3. The statement of objectives for an entire program of instruction will consist of several specific statements.

4. The objective which is most usefully stated is one which best communicates the instructional intent of the person selecting the objective.

> Objectives are not only the goals toward which the curriculum is shaped and toward which instruction is guided, but they are also goals that provide the detailed specification for the construction and use of evaluative techniques.
>
> Bloom (1956)

CHAPTER II

THE THREE DOMAINS: COGNITIVE, AFFECTIVE, AND PSYCHOMOTOR

It has been found that most of the objectives stated by teachers in our schools, as well as those found in the literature, may be placed rather easily in one of three major domains or classifications: cognitive, affective, and psychomotor.

Educational objectives may be specified in two ways. One method is to define the objective in behavioral terms. The other is to place an objective within a large overall scheme which locates it along a continuum of internalization from lowest to highest. The latter method was employed in developing the hierarchical structure of the three domains.

Cognitive Domain

The idea for a classification system of educational objectives was initiated at a meeting of college examiners attending the 1948 American Psychological Association Convention in Boston. Because educational objectives provide the basis for building curricula and tests and represent the starting point for much educational research, the group believed that such taxonomies would lead to increased communication among professional educators.

A committee was formed to organize and write a taxonomy on cognitive educational goals. The result was a volume entitled *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain*, ed. Benjamin S. Bloom.[5]

Objectives which deal with recall or recognition of knowledge and development of intellectual abilities and skills are classified in Handbook I on the Cognitive Domain.

In this handbook the classification scheme is described and illustrated. What is classified by Bloom[5] is the intended behavior of the students--the ways in which individuals are to think as the result of participating in some unit of instruction.

Intended behaviors specified by educational objectives "do not necessarily include many of the behaviors which psychologists are interested in classifying and studying. One reason is that the intended behaviors represent the social goals imposed upon youngsters by their society or culture. Thus, the intended or desired behaviors included in educational objectives usually do not include undesirable or abnormal behaviors which are socially disapproved. Similarly, certain natural or unsocialized behaviors which might be of interest may fall outside the categories of the taxonomy." (Bloom[5])

The taxonomy of behavioral objectives in the cognitive domain contains six classes or levels of cognition. They are:

1. Knowledge--the learner will recall appropriate material.
2. Comprehension--the learner will utilize abilities and skills to organize and reorganize material to achieve a particular purpose.
3. Application--the learner will use abstractions in concrete situations.
4. Analysis--the learner will express the relationship between ideas.
5. Synthesis--the learner will combine elements (ideas) to form a completely new idea.

6. Evaluation--the learner will make quantitative and qualitative judgments.

A condensed version of the Taxonomy of Educational Objectives (Bloom[5]) appears as Appendix A of this volume.

The eight teachers attempted to place their objectives within the cognitive domain classification scheme. Examples of these objectives as developed by these teachers are listed by curricular area and class level within the cognitive domain.

READING SKILLS

1. Knowledge

   The child will:

   Repeat a rhyme

2. Comprehension

   The child will:

   Select a picture that answers a question

   Correctly match words with pictures

   Build the correct story title with word cards

3. Application

   The child will:

   Select a picture that illustrates the story

   Read a page silently to find out specific information

4. Analysis

   The child will:

   Tell a story in sequence

   Tell whether sentences are related to the story

   Classify stories

5. Synthesis

   The child will:

   Act out a story

   Predict what might happen after the end of the story

   Give a title for the story

6. Evaluation

   The child will:

   Determine whether a sentence is a true statement

MATH SKILLS

1. Knowledge

   The child will:

   Draw a given number of objects

   Point to number words

   Describe the ordinal position of an object

2. Comprehension

   The child will:

   Match number word with set of objects

   State coordinates plotted by another individual

   Tell how many more there are in one set than another

3. Application

   The child will:

   Complete number sentences

   Give the rule for naming numbers based on tens and ones

4. Analysis

   The child will:

Break up objects into groups of tens and ones

Tell how many tens and ones are in a number

SCIENCE AND SOCIAL STUDIES SKILLS

1. Knowledge

   The child will:

   Use proper terminology

   Tell what he knows about an object

2. Comprehension

   The child will:

   Guess the name of an object by using all senses except sight

   State the differences between two items

3. Application

   The child will:

   Manipulate scientific equipment correctly

   Describe a picture he drew to illustrate a scientific fact

4. Analysis

   The child will:

   Classify objects according to class-determined criteria

   Determine certain existing conditions through observation

   Tell what he discovered from doing the experiment

5. Synthesis

   The child will:

   Act out home activities

   Suggest ways to overcome a problem

6. Evaluation

The child will:

Solve a problem

MUSIC AND ART ACTIVITIES

1. Knowledge

The child will:

Sing previously taught songs

Participate in finger plays

2. Comprehension

The child will:

Play a rhythm band instrument in time with music

Tell which part of a song is high and which part is low

Listen for specific sounds on a record

3. Application

The child will:

Sing the high notes of a song upon request

4. Analysis

The child will:

Manipulate flannel board cutouts to tell a story

Decide what materials he needs for an art project

5. Synthesis

The child will:

Dramatize a song

Use a variety of media

PHONICS SKILLS

1. Knowledge

The child will:

Give the sounds of a letter

Say the word on a phonetic picture card

2. Comprehension

The child will:

Form blends by combining a consonant and vowel sounds

Circle a specific letter in a word that begins with that letter

3. Application

The child will:

Name things that begin with specific sounds

Write a specific letter under pictures that begin with that sound

4. Analysis

The child will:

Listen for a vowel in a word and classify that word

Discuss a picture

WRITING SKILLS

1. Knowledge

The child will:

Write words containing a specific letter

Write specific groups of letters

2. Comprehension

The child will:

Write short sentence patterns containing a specific letter

Write sentence strips to be used in booklet

3. Application

The child will:

Take dictation

The role of the teacher is that of a conditioner of emotional reactions. The object of teaching is to condition favorable reactions to subject matter.

Bugelski (1964)

Affective Domain

> *Affective*: Objectives emphasize a feeling tone, an emotion, or or a degree of acceptance or rejection. Affective objectives vary from simple attention to selected phenomena to complex but internally consistent qualities of character and conscience. We found a large number of such objectives in the literature expressed as interests, attitudes, appreciations, values, and emotional sets of biases. (Kratwohl, *et al*. 21)

The difficulty of compiling a taxonomy of affective objectives is evident when one attempts to seek evaluative material in the affective domain. Efforts to measure achievement on affective objectives become frustrating because they present technical problems of assessment. A child soon learns which affective responses will be rewarded by the teacher and which responses will be punished. A child may profess an interest in a subject or in his fellow students, but is is difficult to determine the difference between a "spontaneous" response and one made only to please the teacher.

Another problem inherent in the development of a taxonomy of the affective domain is that our schools emphasize choice and free decision. Any attempts at dealing with feelings and emotions seem alien to the educational goals in a democratic society.

However, the classroom teacher is well aware that learning (cognitive gain) will not occur unless the child is responding, receiving, and reacting to the teacher and to other environmental stimuli. To teach a lesson, the teacher must gain the pupils' attention. They must be listening to and perceiving what she is attempting to convey.

It is clear that the compilation of objectives for affective behavior is just as important, perhaps even more crucial, than the establishment of objectives for cognitive behavior. The interrelationship between these domains becomes apparent to anyone who has ever attempted to convey information--to address a group or to teach a class. Unless you have their attention, they may not receive, or learn, what you are attempting to communicate.

The classroom teacher on the first day of a new semester faces this problem dramatically. Many of us have said, "If you don't gain control of your students the first day, you might as well give up and go home. You've lost them."

The Taxonomy of Educational Objectives, Handbook II: Affective Domain, by Kratwohl[21] is modeled after Handbook I: Cognitive Domain. A condensed version of the Affective Domain appears as Appendix B.

The importance of defining affective objectives for educational goals was recognized by the eight teachers who comprised Module B's experimental team. To determine what goals the teachers had for their pupils in the affective domain, SWCEL requested that all experimental teachers state their terminal affective goals. The teachers responded to the request:

> List any behaviors you would suggest as possible goals that these children should demonstrate at the end of their first year in school (affective domain).

Although it is difficult to observe the manifestations of affect, the teachers listed behaviors which they thought might be indicative of specific goals for the children. Some of these follow.

"Each child will:

> demonstrate through his activities that he is aware of himself as a person--aware of his abilities and inabilities and is able to accept these (emotional maturity).

demonstrate in his interpersonal relations that he is aware of others (his peers, teachers, parents, friends), their abilities and inabilities by listening to others, working with others (cooperation), being tolerant of others, and ultimately being affectionate and sensitive to the needs, problems, and joys of others.

work individually.

cooperate with a group.

have a desire to learn and be proud of his accomplishments.

enjoy school and express this feeling.

voluntarily help himself and others.

accept responsibilities.

partake in and enjoy self-expression in reading, art, music, drama, etc.

help in group planning and conform to group rules.

attempt a new and different task.

accept failure and try again.

spontaneously read books for enjoyment and request and/or comply to storytime activities.

express and defend his own viewpoint."

These goals listed by the teachers are important and worthwhile, but some of them are not precisely defined behaviors.. They cannot always be seen or measured, nor can they be readily verbalized as specific behaviors. This does not, however, diminish their worth as pupil goals in the affective realm, and for this reason, they are included.

Although the affective domain is difficult to measure, teacher awareness of its classroom implications is extremely important. An example of its importance is demonstrated in the discussion of the self-fulfilling prophecy phenomenon.

If you treat an individual as he is, he will stay as he is; if you treat him as he ought to be and could be, he will become what he ought to be and could be.

Goethe

The Self-fulfilling Prophecy Phenomenon and Self-concept

In spite of Goethe's insight into human behavior, it is doubtful he envisioned the impact the self-fulfilling prophecy phenomenon would have on the educational process and today's concern about how this phenomenon operates in the all-important context of the student-teacher relationship.

Basically, the self-fulfilling prophecy is defined as a situation which initiates behavior from the person proposing the definition that makes it come true, irrespective of original accuracy. Thus, the behavior of the definer operates as a determinant in shaping the behavior of the situation, or individual, so defined. The process is very reinforcing to the one defining since it operates to make the future result correspond with the prophecy. Further, the process is difficult to detect because it is quite easy to be unaware of the critical role one's own behavior plays in fulfilling the prophecy.

For example, a teacher labels a child a "slow learner." Having categorized the child thusly, the teacher may fail to try to teach him to read, give him only easy work, and in general treat him as a "slow learner." If all individuals concerned with the child's development respond similarly, the child may indeed never progress very far academically and may truly exhibit "slow learner" behavior. The prophecy is then fulfilled by the teacher looking back and saying, "See, I was correct in my estimation," failing to recognize that his actions were the major determinants of the child's behavior.

On the basis of this illustration, one might believe the self-fulfilling prophecy to be a negative concept. However, once this concept is understood and properly applied, it could become a powerful force in shaping behavior in a positive direction. Instead of labeling a child a slow learner and proceeding to treat him as such, it might be profitable to organize conditions generating confidence in the child that he can perform successfully. Also, the teacher can proceed to see that he does fulfill these expectations.

The belief is widespread that poor children lag behind academically because they are members of a disadvantaged group. However, a recent study by Rosenthal and Jacobson[25] suggested such children may underachieve because their teachers expect them to do so.

Their experimentation involved testing all children, K-5, in a particular school in May 1964. In September about 20 percent of the children were selected _at random_ as being potential "academic spurters." Their names were dropped casually to teachers at the end of a staff meeting. The experimental treatment of the children involved nothing more than giving their names to their teachers as children who would be expected to show unusual intellectual gains in the years ahead. The difference, then, between these children and the undesignated children who constituted the control group was entirely in the minds of the teachers.

All children were tested again with the same instrument in January and May of that school year and at the end of the following year (1966).

The results indicated strongly that children from whom teachers expected greater intellectual gains actually showed such gains. Tests given at the end of the first year showed the largest I. Q. gains among children in the first and second grades.

At the end of the first school year, 1964-65, teachers were asked to describe the classroom behavior of their pupils. The designated children were described as more affectionate, better adjusted, more appealing, and less in need of social approval than the other children. The researchers report that these findings were particularly striking in the first grade.

In contrast, when the teachers rated the undesignated children, many of whom also gained in I. Q., it was found that the more the child gained the less favorably he was rated by his teacher.

It was also found that the most unfavorable ratings were given low-ability classroom children who gained the most intellectually. When these "slow track" children were in the control group where little intellectual gain was expected of them, they were rated more unfavorably by their teachers if they did show gains in I. Q. In fact, the more they gained, the more unfavorably they were rated. Even when the slow-track children were in the designated groups, where gain was expected, they were not rated as favorably with respect to their control-group peers as were children of the medium track and high track. The researchers assume that it is likely to to be difficult for a slow-track child, even if his I. Q. is rising, to be seen by his teacher as well adjusted and as a potentially successful student.

From their findings, the researchers hypothesize that the explanation for the large gain in reasoning intelligence seems to lie in the subtle feature of the interaction between the teacher and the child. Her tone of voice, facial expression, touch and posture may be the means by which she communicates--although quite unwittingly--her expectations for the child. Such communication might help the child by changing his conception of himself, his anticipation of his own behavior, his motivation or his cognitive skills.

Rosenthal and Jacobson[25] indicate that more research is needed in this area. However, there was no direct treatment of the children in this study such as a crash reading program, extra time for tutoring, or similar programs. The only people affected directly were the teachers; the effect on the children was indirect. This being so, the results certainly lend credence and support to the concept of the self-fulfilling prophecy phenomenon. They also indicate the importance for teachers to understand and expect more of "disadvantaged" children.

According to Bloom, Hess, and Davis[6], available evidence seems to indicate that the ego development of the deprived child is more likely to be characterized by lack of self-confidence and negative self-image than it is for the middle-class child. In addition, research on failure shows the negative effects of failure on personality and subsequent achievement and aspiration. Motivation studies show many deprived children and adolescents often have unrealistic aspirations. Verbalized educational goals often are incongruent with actual achievement. On the average, students from the lower social class do have lower educational aspirations than do upper-class students.

The school achievement of disadvantaged children is characterized by an accumulative deficit. The children begin school with inadequacies in language development, perceptual skills, retention skills, and motivation. Under the usual school curriculum, the achievement pattern of deprived children is such that they fall increasingly behind their non-deprived peers. This seems to affect some basic weaknesses in both curriculum and school practices for the children.

Research on attitudes of teachers toward disadvantaged children generally shows that they more negatively evaluate disadvantaged than middle-class children and are "blamed" by teachers for their state. These things along with their cognitive deficits and the absence of rewards, cumulatively interfere with successful learning.

Studies demonstrate the self-fulfilling tendencies of lower studen self-expectation and aspiration as well as lower teacher expectation fo students of particular sub-cultures, socio-economic classes, and minorit ethnic groups. Evidence also indicates the achievement motive is learn at very early childhood and is resistant to change.

Hamachek[14] has summarized a number of studies concerned with the relationship between self-concept and learning. His summary includes:

1. Each individual clings to his self-concept and performs in accordance with it. All things being equal, those who do not achieve, choose not to do so; those who do achieve, choose to do so.

2. Measures of self-concept and ratings of ego strength made at the beginning of kindergarten were found to be more predictive of reading achievement two-and-one-half years later than were measure of intelligence.

3. Male achievers feel relatively more positive about themselves than do male underachievers.

Stated plainly, self-concept research points to a simple conclusio underachievers learn poorly because they underestimate their ability to perform well.

At this point the teacher probably is asking what steps he can take to overcome a pupil's poor self-concept and lack of motivation other than attempting to develop a positive self-fulfilling prophecy. Hamachek helps us with this problem by reporting the latest research on what types of teachers are found to be most effective in motivating their students. He summarized, in essence, that teachers who are superior in encouraging motivation and learning in students seem to reflect more of the following characteristics in their classroom behavior, interaction with students, and teaching styles:

1. Willingness to be flexible, to be directive and nondirective as the situation might demand.
2. Capacity to perceive the world from the student's point of view
3. Ability to "personalize" their teaching
4. Willingness to experiment and try out new ideas and materials
5. Skill in asking questions rather than acting as an answering service
6. Willingness to provide definite study helps
7. Ability to show an appreciative attitude (as evidenced by nods, comments, smiles, and so forth)
8. Conversational manner in teaching--an informal, relaxed style.

In conclusion, it can be said that only the teacher who believes what she teaches can be truly effective. Children are influenced not so much by what is said, but by how it is said. They see through pretentions and react to people's feelings more easily than do adults. They are sensitive to minute gestures, facial expressions, and inflections of the adult's voice. The teacher must recognize the basic "equality" of different ethnic, cultural, and social groups and act accordingly if psychologically and educationally the poverty cycle is to be broken.

To meet life demands, an individual's acquiring of adequate motor skill is as important as is his mastery of abstract ideas. There are few situations in which both are not needed.

Crow and Crow (1956)

Psychomotor Domain

Those who proposed taxonomies for the cognitive and affective domains indicated they had no special interest in the development of a classification system for educational objectives in the psychomotor domain. They recognized the existence of the psychomotor domain but found so little research on it that they decided not to develop a classification at that time.

Continuation of this lack of interest led Simpson[26] to seek a grant from USOE to develop an adequate taxonomy.

Preliminary investigations led to the conclusions that there is a hierarchy among the three domains. The cognitive domain, though certainly very complex, is, in a sense, somewhat "purer" than the other two domains. That is, cognition can take place with a minimum of motor activity. Also, feeling may not be greatly involved--although it would seem reasonable to assume some degree of affect. The affective domain necessarily involves considerable cognition as well as feeling. And, the psychomotor domain, as implied in name, involves cognition and motor activity, as well as affective components involved in the willingness to act. This hierarchy of interaction of all three domains, from the cognitive to the affective to the psychomotor, results in a special complexity in developing a classification system for this last domain.

A classification system that is not taxonomic would have merit in the study of educational objectives. One that is taxonomic, however, should prove more valuable in determining the relative difficulty of achieving the objectives and as an aid in determining sequence of learning experiences. The problem is one of arriving at a basis for determining the relative difficulty or amount of skill involved in carrying out a motor activity.

Simpson[26] also reports that her work in this area resulted in looking at educational objectives in a new light. She became aware that many objectives that are assumed should be stated to provide for greater clarity and to insure their consideration in the selection of learning experiences and content. Another important step to be taken is to look critically at the relationships among the three domains. It is readily apparent the domains are closely related and that a single educational objective might have a particular significance in one domain and another in another domain. For example, at the mental-set level in performing a motor act, knowledge is required; hence, an objective that "fits" this level also would fit into the cognitive domain and could be classified there.

Much work is needed in studying the psychomotor domain and its relationships to the other two domains. What has been presented here is only a beginning.

A condensed version of the Psychomotor Domain appears as Appendix C of this volume.

Education is as old as human society, and every human society has its own particular ways of making its children into full-fledged adult participants in its culture.

Robert J. Havighurst (1957)

CHAPTER III

TESTING STUDENTS FROM OTHER CULTURES AND SUBCULTURES

The need for tests in an educational situation long has been recognized by professional educators. Testing gives the instructor an opportunity to objectively measure (evaluate) a student's performance. Tests decrease the guesswork in teaching, and provide some feedback about the effectiveness of the teacher's program as well.

Many reasons can be advanced for including tests in the educational program.

1. Tests are the instruments by which the teacher can measure not only the educational progress and mental growth of the student but also provide a yardstick for comparing an individual's achievements with his aptitudes and abilities.
2. Tests are impartial and objective; they supplement the observations of teacher, and help "freeze" subjectivity.
3. Test information has approximately the same meaning for all persons who have been trained in their use.
4. Tests increase the probability of sampling many abilities and make it possible to obtain some facts indirectly. Tests also increase the possibility of uncovering individual problem areas.
5. Using tests can increase pupil self-improvement and pave the way for remedial instruction.

The Testing Program

It is not the purpose of this section to suggest a plan for a testing program, but rather to advance some ideas for consideration when planning behavioral objectives in a classroom situation. Perhaps the most crucial variable in the identification and definition of the culturally diverse is the realization that many kinds of problems and types of groups are sometimes almost blithely grouped under the label "disadvantaged."

In the present volume, our primary concern is with the educational problems of these groups. To provide the setting within which educational problems are solved, the relevant social and psychological variables must be recognized.

An increasing cultural deficit with age and grade level seems to be a rather general phenomenon. Research has shown that the higher a child's family is on the socioeconomic scale, the richer were his environmental experiences. Eller[10] found significant differences on a range of experiences among 710 children in the first-grade of the Cedar Rapids (Iowa) public schools. There were marked differences between such aspects as the number of books in the house, participating in family planning, travel, ability to use a telephone, attendance at athletic contests, and number of parties attended.

Differences in personality may be noted as a result of these and other experiences. In the classroom, these differences become quite visible. As early as the 1940's, studies on reading readiness (Frahm [11] and Jewell [19]) indicated that children from lower class underprivileged homes tended to be less ready for reading in the first-grade than pupils from more fortunate circumstances.

Intellectual Abilities. Torrance[28] has reported that the favorite instruments for assessing intellectual abilities of culturally divergent children "have continued to be the various modifications of the Goodenough Draw-A-Man Test and the Raven Progressive Matrices, especially in international studies. On the domestic scene, the Peabody Picture Vocabulary Test has won some popularity in testing children from various subcultures."

SWCEL has conducted extensive testing programs using the Goodenough Draw-A-Man Test. Significant correlations have been obtained between this and several other intelligence tests. A maximum of 15 minutes is required to administer this test. Although an approximate measure of mental age may be discovered by the inexperienced examiner, SWCEL has utilized trained raters with established inter-rater reliabilities of .86 and higher to score the hundreds of tests which have been administered to first grade pupils throughout the Southwest. Because it has proved to be a useful and accurate tool for prediction of first-grade students' academic achievements some suggestions for interpretation of this test follow.

One evidence of the validity of a test is found in its comparison with other well-established tests of mental ability. The relationship of the Goodenough with the Stanford-Binet intelligence test has been obtained with several other intelligence tests. Although no claim of absolute accuracy of finality of rating is made for the scale, the results obtained indicate that it does form a serviceable test of intellectual development.

The Goodenough Test is able to measure intellectual ability in the average range more accurately than at the extremes. That is, a teacher may place more assurance on an IQ score of around 100 than on extreme scores of above 125 or below 75. It must be remembered that this test, as all tests, has a margin of error which must be considered in interpretation. Research indicates that the Goodenough measures mental ability within about a ten-point range. That is to say, an IQ score on this test could be off by five points in either direction, sometimes a bit more.

Children who have particular types of physical handicaps involving muscular coordination or eye-hand coordination may not be able to do well on this test. However, this test is a good measure for most children, since drawing has been found to be universal regardless of cultural and environmental influences. In young children a close relationship is apparent between concept development as shown in drawing and general intelligence. The earliest drawings made by children consist almost entirely of what may be described as graphic enumeration of items. Drawings made by subnormal children resemble those of younger normal children in their lack of detail and in their defective sense of proportions. Examination of drawings of unusually high scores on the test leads to the opinion that keen powers of analytic observation, coupled with a good memory for details, are more potent factors in producing high scores that is artistic ability in the ordinary sense of the term.

Evidence shows that in most cases specific training in drawing the human figure does affect the score made on the test. However, there is no evidence that the kind of art training which is most commonly given in the primary grades, and which does not include formal instruction on the human figure, has any appreciable effect on the score.

You will observe that some children who receive low scores on the Goodenough may begin to read and continue at a faster rate than some children who have significantly higher scores. Intelligence is not necessarily an index of readiness to read. Many times a child of average intelligence may be ready to read earlier than a child of superior mental ability.

The "I.Q.," as it is shown, is only relative to the child's performance on this particular test under these particular circumstances. Thus, wise application of these data implies that you use these results only as part of the information considered in dealing with any individual child.

The Raven test has been used to study ability testing to control for intelligence level in comparative studies. Irvine[18a] concluded that the perceptual context of the items is related to the kind of reasoning demanded by the test, and that this dual perceptual reasoning results in a variety of strategies difficult to determine.

> He also concluded that intercultural differences in exposure to perceptual tasks may produce sets that limit an individual's flexibility of approach to figural items and that differences in learning opportunity affect directly the extent to which reasoning within a perceptual frame can be exercised. (Torrance[28])

On the topic of testing, it is probably appropriate to discuss briefly "culture-free" testing. Anastasi[1a] has discussed so-called culture-free tests.

> In actual practice, of course, such tests fall considerably short of this goal. Moreover, the term "culture-common" probably would be more accurate than "culture-free," since at best, performance on such items is free from cultural differences, but not from cultural influences.

Different investigators have attempted to assess intelligence levels of culturally diverse children in various ways. Anastasi[1a] suggests that the purpose of the test should be carefully examined.

> If cultural factors are important determiners of behavior, why eliminate their influence from tests designed to sample and predict such behavior?

No attempt will be made in this volume to discuss in detail all of the tests which have been associated with the testing of intelligence levels in the so-called "culturally disadvantaged" groups of school children. Some of the more commonly used tests are:

Goodenough-Harris Drawing Test
California Test of Mental Maturity
Columbia Mental Maturity Scale
Davis-Eels Games
Detroit Intelligence Tests
Full-Range Picture Vocabulary Test
Illinois Test of Psycholinguistic Abilities
The Lorge-Thorndike Intelligence Tests
Otis Quick-Scoring Mental Ability Tests
Peabody Picture Vocabulary Test
Progressive Matrices--Raven
Stanford-Binet Intelligence Scale
Wechsler Intelligence Scale for Children

Although there is no complete agreement on a definition of intelligence, it is obviously an important factor in judging individual growth in the classroom. Therefore, some method of measuring mental ability is necessary for a better understanding of the pupil. Intelligence tests may be either language or non-language, group or individual.

In choosing an intelligence test for classroom use, it is imperative that the teacher recognizes the ranges of human intellect, the difficulties inherent in evaluative techniques, and the enormous problems involved in identifying precisely the exact nature of intelligence.

Achievement tests. This is the oldest type of test. It attempts to assess what the child has learned rather than his ability to learn. Achievement testing makes it possible to compare local progress with national norms.

A test of this type which has been extensively utilized by SWCEL is the California Achievement Test. Three other tests, the Iowa Tests of Educational Development, the Metropolitan Achievement Tests, and the Stanford Achievement Tests are also highly recommended by many authorities.

Personality tests. Serious problems face the researcher in this area. They are (1) the problem of definition, (2) the problem of instrumentation, and (3) the problem of criterion. Any analysis of pupil or teacher personality must concern itself with the interrelationships which exist between the researcher's definition of the term personality, the instrument he chooses to use to measure personality, and how he chooses to assess effectiveness.

The term personality is an elusive concept; there are profound differences in what is meant by the term. No psychological term seems to be more popular. However, definitions are often contradictory and observations based on one definition may contradict observations based on another definition.

There is much diversity in the ordinary use of the word. Allport[1] extracted almost 50 different definitions which he classified into a number of broad categories. Allport's personal and best known definition is

> Personality is the dynamic organization within the individual of those psychophysical systems that determine his unique adjustments to his environment.

Another issue facing the researcher is the choice of a testing "instrument." Of the scores of instruments available to the researcher, most have been tried in one study or another. However, the data provided by one instrument called a personality test are not necessarily the same as the data provided by another instrument called a personality test, i.e., different instruments may represent different concepts of personality.

Data from self-report instruments are likely to represent a behavioral concept, data from rating scales a social-stimulus concept, data from projective techniques a depth concept.

> The use of tests on the basis of availability ("Here's a new test, let's try it on teachers or pupils") rather than on relevant personality concepts ("Are the definitions and measure appropriat[illegible]he issue under study?") has led to a "shotgun" type of [illegible]ch yielding outcomes that are often inexplicable. (Getzels and Jackson, in Gage[11a], Handbook of Research on Teaching.)

Actual sampling of pupils' classroom behavior is usually inconvenient. It is subject to the inaccuracies of direct question inventory methods and may result either in intentional or unintentional falsification of critical responses.

When classroom observations are conducted, it is imperative that those who do the actual observing are educators thoroughly trained in the use of the instrument. When judgments of behaviors are to be made, it is essential that inter-rater reliability be established. The primary function of the observer is to serve as an abstractor. Abstraction is necessary because it is not humanly possible to record everything and because abstraction makes the phenomena understandable. This abstractive function of the observer takes the form of coding behaviors as they are observed, and then recording them in categories.

In the fall of 1967, observations were made in the classroom of the experimental and control teachers involved in the Module B study. The observers were certified teachers who maintained an inter-rater reliability of .83.

Interpretation of tests. Interpretation of tests can be considered the most important phase of the testing program. If testing is to be considered a means through which each individual has the opportunity of coming to a fuller realization of himself (and thereby utilizing his abilities to a fuller capacity) the test results will be of vital importance in determining if classroom behavioral objectives have been reached.

To evolve a theory of curriculum development and a method of thinking about it, one needs to ask what the demands and requirements of culture and society are, both for the present and for the future. Curriculum is, after all, a way of preparing young people to participate as productive members of our culture. Not all cultures require the same kinds of knowledge. Nor does the same culture need the same kinds of capacities and skills, intellectual or otherwise, at all times.

Hilda Taba (1962)

CHAPTER IV

TRENDS AND STRATEGIES IN CURRICULUM DEVELOPMENT

The accepted practice in curriculum development, regardless of the particular design, is to recognize that it is composed of certain elements and that decisions about these elements need to be based on valid criteria.

The task of curriculum development is to consider each element in an orderly sequence and to ensure that relevant considerations are brought to bear on decisions concerning each element. The elements of the curriculum and their sequential development, according to Taba [27], are:

1. Diagnosis of needs
2. Formulation of objectives
3. Selection of content
4. Organization of content
5. Selection of learning experiences
6. Organization of what to evaluate and how to go about it.

The making of decisions concerning these elements must be based upon certain valid criteria, for example:

1. the demands and requirements of culture and society,
2. the learning process and the nature of the learners,
3. the nature of knowledge, and
4. the structure of the various disciplines.

2

These criteria are extremely important and must be considered if the particular curriculum under development is to have any relevance to those for whom it is designed. Whether we view the role of education as that of transmitting culture, socializing the individual, or reconstructing society, we need to analyze the structure of society in order to determine what the goals and the emphases of education should be. This is particularly necessary in the present-day, rapidly changing, technological society where education plays a role in relation to all areas of the social structure -- social, political, and economic.

The curriculum developer also should have an understanding of the culture and of the personality in culture. He should draw on the work of the behavioral sciences and the disciplines studying culture, because the issues and problems faced by the schools are not wholly rooted in education; they stem from the dynamics and interaction of individuals with their social environment.

The value of the contributions of all of the behavioral sciences cannot be overemphasized. From them we can gain important insights regarding the special tasks schools must accomplish to maximize opportunities for the wholesome emotional and intellectual development of the child.

Theories of curriculum construction, largely based on the psychology of the individual, have led to a disregard of social and cultural influences. The product of laboratory experimentation does not resemble the classroom situation, where learning occurs in a more complex social setting.

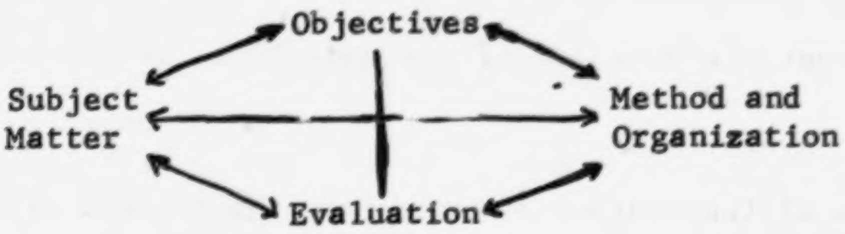
The educator must expand his view of the educational process, and incorporate the ideas of social psychology, sociology and anthropology in developing suitable curriculum programs.

It is not the intention of this discussion to downgrade the importance of psychology and learning theory in making curriculum decisions. Sound suggestions for curriculum development can be best derived from the combination of psychological principles and carefully researched information about the behavior of the individual in his particular environment.

Knowledge of the learner and the learning process are essential because curriculum basically is a plan for learning. It consists of goals for learning and the means of attaining these goals. As we noted in the sequence of curricular elements, the curriculum plan is a result of decisions concerning: (1) selection and arrangement of content, (2) the choice of learning experiences by which this content is to be manipulated and by which the objectives not achievable through content alone can be attained, and (3) plans for the optimal conditions for learning (Taba [27]). Decisions of this magnitude demand adequate knowledge about learners, their development, and learning.

The curriculum should shape the organization of the school and its facilities, rather than vice versa. The functioning curriculum usually is fitted into existing arrangements and is shaped by the limitations of those conditions. However, to be viable and realistic, a curricular design needs to make explicit its relationship to the factors of the instructional resources and school organization necessary for its implementation.

Another important trend in curriculum development is to apply whole criteria rather than using single elements, thereby enhancing the probability of seeing the relationship of the total criteria to the parts. In the same vein, the elements of the curriculum should be seen as interrelated. Taba [27] presents a paradigm that makes this possible.



This paradigm shows that not only are the elements related, but that decisions concerning one element also influence decisions made on the others.

It seems safe to say that the major trend in curriculum development, regardless of the goals, is one whereby more educators are being involved in the process. Criteria for evaluation of the elements of the curriculum now include more areas of the behavioral sciences. The interrelationships of the criteria are more closely scrutinized as is the impact of one element upon another. More consideration is given the organization and facilities of the particular school where the curriculum will be used after its development.

We must remember that the central purpose of curriculum is the maximization of known resources. A subject is included in the curriculum because it contibutes opportunities for developing the skills and experiences which will help the student achieve the abilities, attitudes, and concepts of himself and of the world that will establish his value to society and to himself.

The basic trend since 1957 is the advocacy of directed change. This concept embodies the assumption that change should not be equated with chance but with development--that innovation should be linked to long-term goals. The three most important assumptions for the reader are:

1. The key to successful innovation is providing assistance to teachers as they implement the adopted program. If attention is given to the teachers by those persons provided to assist them, the teachers are more likely to be successful and more enthusiastic about the innovation.
2. The most persuasive experience that can be provided to convince staffs of the value of an innovation is to make provision for them to visit and observe a successful new program. No matter how much is said or written about a new program, it is not as effective in convincing teachers of its value as their seeing it in successful operation in a situation which they can identify as being similar to their own.
3. The process of curriculum change contains three steps: innovation, diffusion, and integration. Innovation is developed on the outside and the process just described leads to diffusion and integration.

Finally, there is an obvious distinction between the curriculum planned for the school and the instructional material actually received by the pupil. An increasing focus on the individual's own curriculum must result in increasing freedom to choose his own learning opportunities. Most curriculum planning has assumed that external motivations and pressures would bring about the same teacher influence on all class members.

Future curriculum development can provide a more complete spectrum of learning opportunities and a better diagnosis of children's motivations and needs. Perhaps we may be able to match learners and opportunities well enough to enable them to achieve at capacity. Goethe's quotation which emphasizes regard for the individual is as pertinent for these ideas as for the self-fulfilling prophecy phenomenon.

Strategies for Curriculum Development

Prerequisites for curriculum development. Before a teacher can develop an effective, meaningful and beneficial curriculum, she must have respect for her pupils and knowledge of their ethnic background. She must know about their home environment, their training history, their culture and their learning styles. She must be aware of their emotional needs and of the conflicts and problems they may face as participants in "two worlds" -- the home and the school. She must, in other words, help each child understand or "find himself" as a member of both his ethnic community and the general American society.

From these considerations, a number of implications for curriculum development may be derived. A sensitive teacher will design all areas of the curriculum with an awareness of the many needs of her pupils.

Potential components of most curricular areas. Rather than offering a step by step rationale for teaching in each curriculum area, a general, unified approach will be suggested. This approach is an outline or basic guideline that can be used for any specific curriculum area. Suggested components and a rationale for each will be offered.

There should be clear evidence of its worth and relevance to justify the teaching of any subject matter. It should be meaningful to the child in terms of time and effort and relation to his present and future life.

Before teaching anything, the teacher should have a complete understanding of the curriculum content, and be able to meaningfully integrate it with present knowledge; the instructional material should be appropriate to the child's developmental level, and the teacher should employ vehicles that will help the pupil to discover and integrate new ideas.

These vehicles should include some type of participation by the child. A media presentation might be incorporated. The purpose of this presentation-participation activity is to make vivid the material presented and to integrate it with the child's experience. A curriculum activity may well begin with the presentation-participation activity so the child will become initially interested and involved.

In beginning any curriculum area, the children's interest and attention must first be captured. A good strategy for this is the employment of the "discrepant event," i.e. something discordant and unexpected which does not conform to the child's expectations with reference to his past experience: something unpredictable, surprising, even amazing! The child will become immediately interested, and ask, "How!" "Why?" and will want to pursue the subject further to find the answers. At this point the teacher has the children's attention and interest, and can proceed with the lesson assured that the children are with her.

Cognitive maps. Cognitive maps are comprehensive, general models, outlines -- the overall plan and strategies for developing and presenting a particular curriculum area. They demonstrate the relationships between the content of the curricular area (what is taught), the method of presentation (how it is taught), and the processes by which the pupil receives and integrates the material (how it is learned).

Other cognitive maps will differ from the example below and will be unique to their own curriculum while still including many of the same basic components. It is important that each cognitive map and each subject taught be understood and planned by the teacher in terms of the learning goals for children and her strategies for teaching them.

Cognitive Map--Activities and Processes

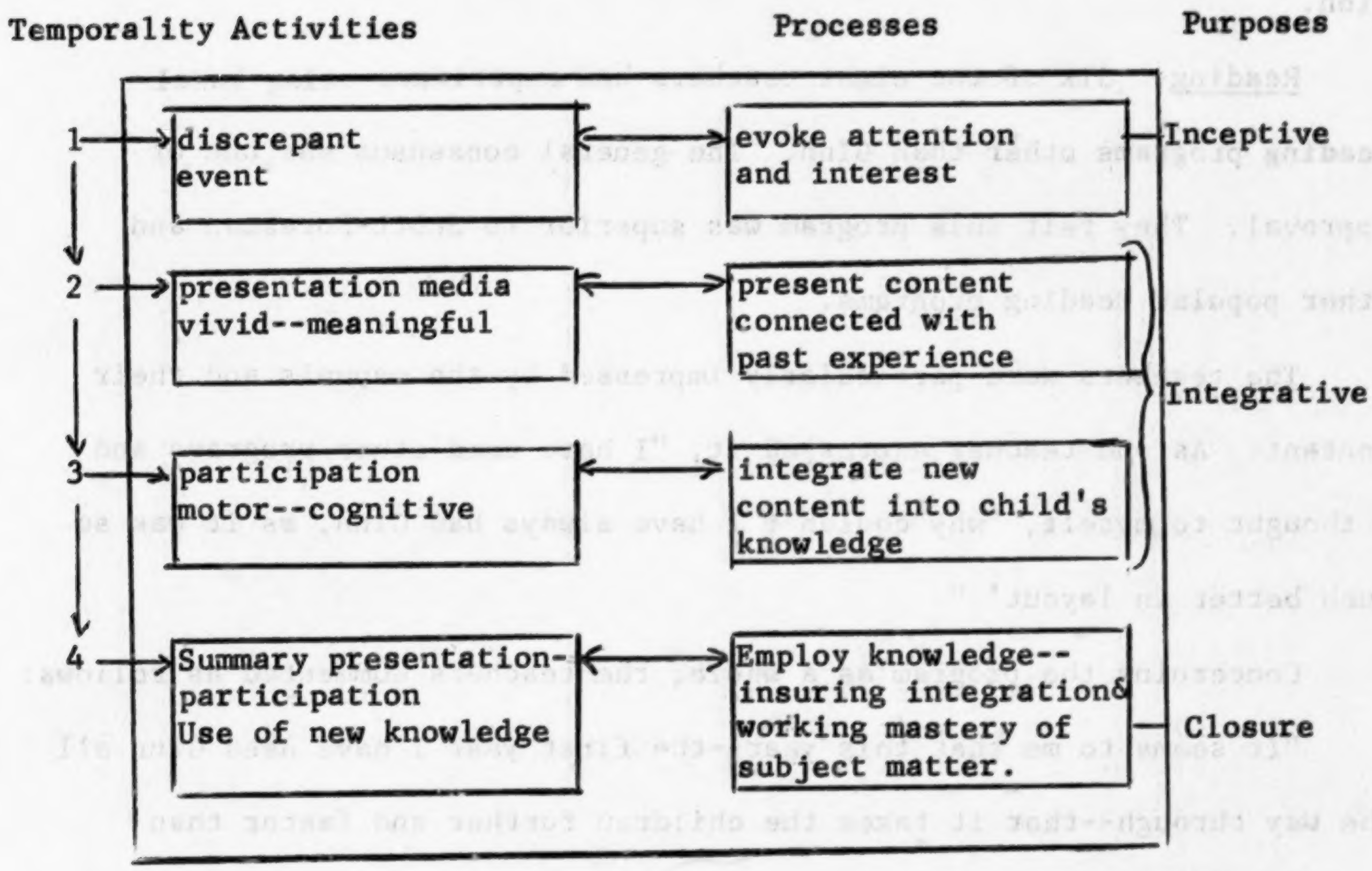

Temporality Activities
Processes
Purposes
1
discrepant event
evoke attention and interest
Inceptive
2
presentation media vivid--meaningful
present content connected with past experience
Integrative
3
participation motor--cognitive
integrate new content into child's knowledge
4
Summary presentation-participation Use of new knowledge
Employ knowledge--insuring integration& working mastery of subject matter.
Closure

Figure 4

The teacher must know her subject matter goals in order to design an adequate and comprehensive cognitive map. She must be able to state these goals as precisely as possible. She may construct a tentative cognitive map of what is to be presented to guide her in selecting behavioral objectives, or she may begin with the behavioral objectives and then design a curriculum to meet these goals.

Teacher Evaluation of the Standardized Curriculum Materials

At the end of the school year, the eight Albuquerque Public School-SWCEL, first-grade teachers evaluated the standardized materials they used in their classrooms. The following is a summary of their evaluation.

Reading. Six of the eight teachers had experience using basal reading programs other than Ginn. The general consensus was one of approval. They felt this program was superior to Scott-Foresman and other popular reading programs.

The teachers were particularly impressed by the manuals and their content. As one teacher expressed it, "I have used other programs and I thought to myself, 'why couldn't I have always had Ginn, as it was so much better in layout'."

Concerning the program as a whole, the teachers commented as follows:

"It seems to me that this year--the first year I have used Ginn all the way through--that it takes the children further and faster than Scott-Foresman.

"I have more low ones reading this year than in other years.

"Ginn pre-primers teach the orderly progression better than do many other programs. They introduce a title to each story and have words on each page. It is easy to teach children where the story begins.

"I like the word progression in the primer. It doesn't have all the 'who,' 'what,' 'that,' and 'this' in the same stories right next to each other. I don't think my kids are having nearly as much trouble as they had in other programs."

The teachers were rather impressed by the supplementary materials produced by Ginn. The teachers' comments on the workbooks probably are best summarized by the following quote, "They have them constructed in a sequence so that there is enough repetition. You can turn to a page and say that we are doing this just like we did another page, but they introduce another new skill so that you are constantly building on what they already know and they will go back and do it."

These teachers also used the "self-helps" and were impressed by the content and skill building. They are arranged both for the rapid and the slow learner.

Phonics. The teachers used the Lippincott, Reading With Phonics, as a basis for a phonics program. The Media Lab made phonics charts from illustrations in the book.

The teacher's manual was judged to be adequate. The children seemed to enjoy the phonics program, although it took them quite some time to get started with it. One must group for this activity as one groups for reading.

Mathematics. The eight teachers all used Addison-Wesely, Elementary School Mathematics, Book I, while the control classrooms used the regular APS adoption, Scott-Foresman. All of the teachers had used the Scott-Foresman series last year also.

In general discussion of the mathematics curriculum, the teachers said, "I think most of the children will be successful in math at the end of the year." "Well, last year an awful lot of mine were not successful. They couldn't do the pages independently. Last year we did math together and you would be surprised at all the questions the kids came up with, just on one single little page."

In reply to the question: Do you have any idea, or have any opinion concerning slow kids in this program and slow children in Scott-Foresman? The reply in unison was, "We sure do." Cited as reasons were: "Just the page layout makes it easier. It doesn't overwhelm them. With the SF, some of the little children are so busy looking at pictures and trying to figure out what's going on that they never understand that seven minus four is part of the lesson."

According to the teachers, the Addison-Wesely program seems to be developed with provisions for a wide span of abilities in mind. The material is adaptable for different rates of progress.

One feature of the teacher's manual well-liked by the teachers is characterized in this quote: "What has been done in the Introduction for the Teachers section is to alert you to what concepts might be a pitfall or what specifics the children may not understand on a certain page. This gives you an idea of the problems before they develop and a warning of what to expect in the way of problems for those who usually have difficulty."

The consensus was that the children enjoyed the Addison-Wesely book and the majority constantly are looking ahead to work of greater difficulty.

It is interesting to note that no significant difference was found between the experimental and control classes when an analysis of variance was computed using the Lorge-Thorndike I.Q. scores. However, in the computation of analysis of covariance (which equalizes any differences between groups) using the I.Q. scores and the total Arithmetic Fundamentals Subtest scores on the California Achievement Test, a significant difference was found at the .01 level. The mean scores of the experimental classes using the Addison-Wesely program were higher than the control group using Scott-Foresman. The possibility exists that these differences are due to the mathematics program.

Science. The D.C. Heath Science Program was also looked upon with favor by the teachers, to wit: "The children really like to read from the books. They try to read every page. When we borrow the books they keep them in their desks, which is kind of unusual, and they read them during spare time. They bring them out and start talking among themselves about it."

The material and the concepts presented therein, as well as the teacher's manual, also received favorable comments: "It presents more than what's on the state list for first grade and the children understand it much better when they have finished. I judge this from last year when I didn't have this program. There are lots of books you can do without, but this is one book I think is nice when you have one for each child. The manual is very interesting to read, with lots of information for the teacher."

Social studies. The Albuquerque schools developed a new curriculum in the social studies area. The experimental teachers elaborated upon that framework and used the suggested materials. The Silver Burdett picture packets and the accompanying manuals were judged excellent and well worth having on a one per classroom basis.

This summary of teacher evaluation is presented to give the reader an idea of how the teachers viewed the standardized materials they used in their classrooms during the experimentation. This material provided the basic framework for the curriculum and the behavioral objectives which were developed. Samples of the teachers' lesson plans and a list of the standardized materials used by them appear as Appendix D.

It may be noticed that some of the behavioral objectives are preceded by asterisks. Although a behavioral objective is a test, it was not feasible for the teachers to record each child's performance on the hundreds of behavioral objectives. Therefore, as a group, they agreed upon certain objectives with which they might compare their respective classes. The asterisks indicate which objectives were compared by the teachers. A folder was maintained by each teacher for each pupil in her class. Records of the children's achievements were kept in these folders In this way they were able to assess the effectiveness of the curriculum, lesson plans, and behavioral objectives. It was found that these seemed to be most appropriate for the children of average abilities.

In the United States, the problem of educational goals is a very complex one. There is little agreement even on what should be taught; far less on how well it should be learned. Almost anything can be found in one curriculum or another--as Martin Mayer (1961) has pointed out, perhaps this is as it should be in a free, mobile society. About all that is agreed to is that we want our educational system to produce good citizens--but we do not define even these. What we expect from our schools is a matter of social and moral values. The psychologist cannot help much in decisions concerning values. He can help only when the goals are stated and when they are stated precisely--hopefully, with objective standards.

B. R. Bugelski (1964)

CHAPTER V

IMPLICATIONS

The implications of this volume for the teacher's classroom practices are many and varied. Some of these are presented here not only as a summary of this volume but also as a bridge to Volume III, Classroom Management.

It is imperative that teachers--and all educators for that matter--become research oriented and develop a sensitivity to the implications of research for classroom practice. In order to do a professional job, one must keep up with the professional literature. It is also important that teachers engage in research at every opportunity.

There is much research to be done and many things to be refined. For example: Characteristics and development of learning patterns, motivational models for specific children, the importance of deprivation, refinement of measuring instruments, and the significance of early environment continue to be areas of concern. The problem in studying early years of development has proved to be difficult. Many attempts focus on child-rearing practices or contact with adults. These probably are significant factors which affect learning, but it would seem that a change of emphasis to the actual learning process might be worthwhile.

Another implication, certainly, is that teachers must develop curriculum prescriptions for their particular groups. One prescription will not be adequate or proper for any group other than the one for which it was designed.

Interwoven with curriculum prescriptions are the taxonomies of the various domains discussed in this volume: cognitive, affective, and psychomotor. These must be used to define the levels involved in the learning tasks. The teacher also must keep in mind the interaction of these domains and how this interaction affects the accomplishment of learning tasks by the students.

A third implication from this material concerns lesson planning. When particular lessons are being designed it is especially important to consider the level of the particular group of students and the taxonomies. Consider, for example, the child who has learned a restricted language code at home. He likely will have difficulty in school where an elaborate code is used and taught by the teacher, and his difficulty is likely to increase as he goes further in school unless he learns the elaborate code that is expected. On the other hand, the child who has had experience with an elaborate language from his earliest years has a relatively easy time in school because he merely goes on developing the kind of language and related thinking he has always used.

The teacher must develop behavioral objectives to accompany the lesson plans. These objectives should describe the nature of the change in behavior sought. Only if this is done, will it be possible to infer what kinds of learning situations need to be established to bring about this change.

Teachers can use behavioral objectives as a guide and as an aid in the selection of processes to attain a measurable goal. In the same fashion, scientists use operational definitions to give words and processes operational meaning. An operational definition, in the simplest case, is a description of the movements and manipulations performed by an experimenter and the changes in behavior that result. Desire, reward, motives, etc., all can be given surprisingly precise definitions if described in this way. A hungry child, according to an explicit operational definition, is one who has been deprived of food for a period of time after having been on an accustomed meal schedule.

By the same token, an operational definition of the term reward usually states that it is some change in the environment (presenting a child with food, for example) that increases the likelihood of the child repeating the behavior that immediately preceded the reward. Notice that there is no mention of "something that the child likes" or "something that he wants to get", rather, the definition is explicitly stated in terms upon which agreement can be reached. We may all disagree about what children "like" (unless we operationally define "like"), but most of us can agree that sometimes children repeat an action before it was followed by a reward.

Thus, defining behavioral objectives for classroom use is analogous to the practice of constructing operational definitions in scientific pursuits. Both strip away ambiguity and develop precise, measurable definitions of behavior.

There is another important implication embodied in the above material. If the teacher is eliciting measurable behavior, then, the teacher also must develop mastery tests with which to measure whether or not the child has achieved the objective. There is no point in eliciting behavior in this fashion without assessment.

To make possible efficient learning in the individual student, a number of types of decisions have to be made. According to Gagne[12] "In the simplest form of the educational system--the student and the teacher at opposite ends of a log--it is evident that all these decisions must be made by that tremendously wise person, the teacher." However, our modern educational systems are very complex and specialized. Educators must look to specialists in the behavioral sciences for aid in making these decisions.

Gagne [12] believes that these educational decisions fall into an order of priority in this fashion:

1. Motivation. No set of decisions is more clearly dependent on personal interactions with the student than those concerned with motivation. The establishment and nurturing of personal goals and values, and their relation to more specific motives for achievement, can best be done by a person who occupies a position of authority in the everyday life of the developing individual. Specializing this function in the "guidance specialist" does not appear to be a direction of educational change that is likely to succeed in the long run. Every teacher should be a guidance specialist.

2. Transferability of knowledge. Whoever the participants may be, the refinement, qualification, and elaboration of acquired knowledge appears to be a process best conducted by interaction. "The

skillful teacher has learned a variety of techniques for conducting discussion that aid the generalizability of knowledge."

Gagne [12]

3. Assessment. The teacher should be best equipped to know what questions to ask the student. Teachers need to take a great deal of the responsibility for this function, and need to learn the techniques necessary to perform it well. To some degree, testing is necessarily a specialized function, and testing methods need much further development.

4. Conditions for learning. Although the teacher doubtless should continue to have some part in determining the conditions of learning, there is a distinct possibility that predesign of these conditions will be found to be the more efficient procedure for many kinds of content. As a specialized function, the choice of learning conditions often requires the professional knowledge of the learning psychologist.

5. The structure of knowledge to be learned. Determining learning structures has been a specialized function in which the teacher traditionally has played a minor role. (Exceptions occur in some instances of college instruction.) Ideally, it would seem reasonable to have the learning structure of knowledge determined by those with professional "content" knowledge working with educational psychologists.

6. Learning objectives. These decisions also are in a sense "specialized" beyond the realm of teacher responsibility. Parents,

scholars and community leaders all have some part to play in stating objectives of instruction. But objectives also must be defined in terms of observable human performances, and this activity requires some psychological knowledge.

It follows in logical sequence, especially after learning the "hows," "whys," and "wherefores" of behavioral objectives in terms of observeable human performances that the reader turn to Volume III, for a specialized discussion of learning theory and classroom management.

Teacher effectiveness in leading the child to demonstrate the desired behavior depends upon his ability to group and apply current, research-based learning theory and to determine its applicability to the particular classroom group with which he is involved. To maximize his effectiveness, the teacher should develop a plan of classroom contingency management. These aspects are discussed in Volume III.

But now we have come to the end of our explorations and must somehow make a landing, as far up the beach as possible; there to write our findings in the sand, since we have nothing to carve in stone, our work being merely a prelude to more substantial studies.

Murray (1938)

APPENDIX A

Condensed Version of the
Taxonomy of Educational Objectives
(from Bloom[5])

Cognitive Domain

KNOWLEDGE

1.00 KNOWLEDGE

Knowledge, as defined here, involves the recall of specifics and universals, the recall of methods and processes, or the recall of a pattern structure, or setting. For measurement purposes, the recall situation involves little more than bringing to mind the appropriate material. Although some alteration of the material may be required, this is a relatively minor part of the task. The knowledge of objectives emphasizes most the psychological processes of remembering. The process of relating is also involved in that a knowledge test situation requires the organization and reorganization of a problem such that it will furnish the appropriate signals and cues for the information and knowledge the individual processes. To use an analogy, if one thinks of the mind as a file, the problem in a knowledge test situation is that of finding in the problem or task the appropriate signals, cues, and clues which will most effectively bring out whatever knowledge is filed or stored.

1.10 KNOWLEDGE OF SPECIFICS

The recall of specific and isolable bits of information. The emphasis on symbols with concrete referents. This material, which is at a very low level of abstraction, may be thought of as the elements from which more complex and abstract forms of knowledge are built.

1.11 KNOWLEDGE OF TERMINOLOGY

Knowledge of the referents for specific symbols (verbal and nonverbal). This may include knowledge of the most generally accepted symbol referent, knowledge of the variety of symbols which may be used for a single referent, or knowledge of the referent most appropriate to a given use of a symbol.

*To define technical terms by giving their attributes, properties, or relations.

*Familiarity with a large number of words in their common range of meanings.

1.12 KNOWLEDGE OF SPECIFIC FACTS

Knowledge of dates, events, persons, places, etc. This may include very precise and specific information such as the specific date or exact magnitude of a phenomenon. It may also include approximate or relative information such as an approximate time period or the general order of magnitude of a phenomenon.

*The recall of major facts about particular cultures.

*The possession of a minimum knowledge about the organisms studied in the laboratory.

1.20 KNOWLEDGE OF WAYS AND MEANS OF DEALING WITH SPECIFICS

Knowledge of the ways of organizing, studying, judging, and criticizing. This includes the methods of inquiry, the chronological sequences, and the standards of judgment within a field as well as the patterns of organization through which the areas of the fields themselves are determined and internally organized. This knowledge is at an intermediate level of abstraction between specific knowledge on the one hand and knowledge of universals on the other. It does not so much demand the activity of the student in using the materials as it does a more passive awareness of their nature.

1.21 KNOWLEDGE OF CONVENTIONS

Knowledge of characteristic ways of treating and presenting ideas and phenomena. For purposes of communication and consistency, workers in a field employ usages, styles, practices, and forms which best suit their purposes and/or which appear to suit best the phenomena with which they deal. It should be recognized that although these forms and conventions are likely to be set up on arbitrary, accidental, or authoritative bases, they are retained because of the general agreement or concurrence of individuals concerned with the subject, phenomena, or problem.

*Familiarity with the forms and conventions of the major types of work, e.g., verse, plays, scientific papers, etc.

*To make pupils conscious of correct form and usage in speech and writing.

1.22 KNOWLEDGE OF TRENDS AND SEQUENCES

Knowledge of the processes, directions, and movements of phenomena with respect to time.

*Understanding of the continuity and development of American culture as exemplified in American life.

*Knowledge of the basic trends underlying the development of public assistance programs.

1.23 KNOWLEDGE OF CLASSIFICATIONS AND CATEGOREIS

Knowledge of the classes, sets, divisions, and arrangements which are regarded as fundamental for a given subject field, purpose, argument, or problem.

*To recognize the area encompassed by various kinds of problems or materials.

*Becoming familiar with a range of types of literature.

1.24 KNOWLEDGE OF CRITERIA

Knowledge of the criteria by which facts, principles, opinions, and conduct are tested or judged.

*Familiarity with criteria for judgment appropriate to the type of work and the purpose for which it is read.

*Knowledge of criteria for the evaluation of recreational activities.

1.25 KNOWLEDGE OF METHODOLOGY

Knowledge of the methods of inquiry, techniques, and procedures employed in a particular subject field as well as those employed in investigating particular problems and phenomena. The emphasis here is on the individual's knowledge of the method rather than his ability to use the method.

*Knowledge of scientific methods for evaluating health concepts.

*The student shall know the methods of attack relevant to the kinds of problems of concern to the social sciences.

1.30 KNOWLEDGE OF THE UNIVERSALS AND ABSTRACTIONS IN A FIELD

Knowledge of the major schemes and patterns by which phenomena and ideas are organized. These are the large structures, theories, and generalizations which dominate a subject field or which are quite generally used in studying phenomena or solving problems. These are at the highest levels of abstraction and complexity.

1.31 KNOWLEDGE OF PRINCIPLES AND GENERALIZATIONS

Knowledge of particular abstractions which summarize observations of phenomena. These are the abstractions which are of value in explaining, describing, predicting, or in determining the most appropriate and relevant action or direction to be taken.

*Knowledge of the important principles by which our experience with biological phenomena is summarized.

*The recall of major generalizations about particular cultures.

1.32 KNOWLEDGE OF THEORIES AND STRUCTURES

Knowledge of the body of principles and generalizations together with their interrelations which present a clear, rounded, and systematic view of a complex phenomenon, problem, or field. These are the most abstract formulations, and they can be used to show the interrelation and organization of a great range of specifics.

*The recall of major theories about particular cultures.

*Knowledge of a relatively complete formulation of the theory of evolution.

INTELLECTUAL ABILITIES AND SKILLS

Abilities and skills refer to organized modes of operation and generalized techniques for dealing with materials and problems. The materials and problems may be of such a nature that little or no specialized and technical information is required. Such information as is required can be assumed to be part of the individual's general fund of knowledge. Other problems may require specialized and technical information at a rather high level such that specific knowledge and skill in dealing with the problem and the materials are required. The abilities and skills objectives emphasize the mental processes of organizing and reorganizing material to achieve a particular purpose. The materials may be given or remembered.

2.00 COMPREHENSION

This represents the lowest level of understanding. It refers to a type of understanding or apprehension such that the individual knows what is being communicated and can make use of the material or idea being communicated without necessarily relating it to other material or seeing its fullest implications.

2.10 TRANSLATION

Comprehension as evidenced by the care and accuracy with which the communication is paraphrased or rendered from one language or form of communication to another. Translation is judged on the basis of faithfulness and accuracy, that is, on the extent to which the material in the original communication is preserved although the form of the communication has been altered.

*The ability to understand non-literal statements (metaphor, symbolism, irony, exaggeration).

*Skill in translating mathematical verbal material into symbolic statements and vice versa.

2.20 INTERPRETATION

The explanation or summarization of a communication. Whereas translation involves an objective part-for-part rendering of a communication, interpretation involves a reordering, rearrangement, or a new view of the material.

*The ability to grasp the thought of the work as a whole at any desired level of generality.

*The ability to interpret various types of social data.

2.30 EXTRAPOLATION

The extension of trends or tendencies beyond the given data to determine implications, consequences, corollaries, effects, etc., which are in accordance with the conditions described in the original communication.

*The ability to deal with the conclusions of a work in terms of the immediate inference made from the explicit statements.

*Skill in predicting continuation of trends.

3.00 APPLICATION

The use of abstractions in particular and concrete situations. The abstractions may be in the form of general ideas, rules of procedures, or generalized methods. The abstractions may also be technical principles, ideas, and theories which must be remembered and applied.

*Application to the phenomena discussed in one paper of the scientific terms or concepts used in other papers.

*The ability to predict the probably effect of a change in a factor on a biological situation previously at equilibrium.

4.00 ANALYSIS

The breakdown of a communication into its constituent elements or parts such that the relative hierarchy of ideas is made clear and/or the relations between the ideas expressed are made explicit. Such analyses are intended to clarify the communication, to indicate how the communication is organized, and the way in which it manages to convey its effects, as well as its basis and arrangement.

4.10 ANALYSIS OF ELEMENTS

Identification of the elements included in a communication.

*The ability to recognize unstated assumptions.

*Skill in distinguishing facts from hypotheses.

4.20 ANALYSES OF RELATIONSHIPS

The connections and interactions between elements and parts of a communication.

*Ability to check the consistency of hypotheses with given information and assumptions.

*Skill in comprehending the interrelationships among the ideas in a passage.

4.30 ANALYSIS OF ORGANIZATIONAL PRINCIPLES

The organization, systematic arrangement, and structure which hold the communication together. This includes the "explicit" as well as "implicit" structure. It includes the bases, necessary arrangement, and the mechanics which make the communication a unit.

*The ability to recognize form and pattern in literary or artistic works as a means of understanding their meaning.

*Ability to recognize the general techniques used in persuasive materials, such as advertising, propaganda, etc.

5.00 SYNTHESIS

The putting together of elements and parts so as to form a whole. This involves the process of working with pieces, parts, elements, etc., and arranging and combining them in such a way as to constitute a pattern or structure not clearly there before.

5.10 PRODUCTION OF A UNIQUE COMMUNICATION

The development of a communication in which the writer or speaker attempts to convey ideas, feelings, and/or experiences to others.

*Skill in writing, using an excellent organization of ideas and statements.

*Ability to tell a personal experience effectively.

5.20 PRODUCTION OF A PLAN, OR PROPOSED SET OF OPERATIONS

The development of a plan of work or the proposal of a plan of operations. The plan should satisfy requirements of the task which may be given to the student or which he may develop for himself.

*Ability to propose ways of testing hypotheses.

*Ability to plan a unit of instruction for a particular teaching situation.

5.30 DERIVATION OF A SET OF ABSTRACT RELATIONS

The development of a set of abstract relations either to classify or explain particular data or phenomena, or the deduction of propositions and relations from a set of basic propositions or symbolic representations.

*Ability to formulate appropriate hypotheses based upon an analysis of factors involved, and to modify such hypotheses in the light of new factors and considerations.

*Ability to make mathematical discoveries and generalizations.

6.00 EVALUATION

Judgments about the value of material and methods for given purposes. Quantitative and qualitative judgments about the extent to which material and methods satisfy criteria. Use of a standard of appraisal. The criteria may be those determined by the student or those which are given to him.

6.10 JUDGMENTS IN TERMS OF INTERNAL EVIDENCE

Evaluation of the accuracy of a communication from such evidence as logical accuracy, consistency, and other internal criteria.

*Judging by internal standards, the ability to assess general probability of accuracy in reporting facts from the care given to exactness of statement, documentation, proof, etc.

*The ability to indicate logical fallacies in arguments.

6.20 JUDGMENTS IN TERMS OF EXTERNAL CRITERIA

Evaluation of material with reference to selected or remembered criteria.

*The comparison of major theories, generalizations, and facts about particular cultures.

*Judging by external standards, the ability to compare a work with the highest known standards in its field--especially with other works of recognized excellence.

APPENDIX B

A TAXONOMY OF EDUCATIONAL OBJECTIVES

Handbook II The Affective Domain

(A Condensed Version) (from Krathwohl[21])

1.0 RECEIVING (ATTENDING)

At this level we are concerned that the learner be sensitized to the existence of certain phenomena and stimuli; that he be willing to receive or to attend to them. This is clearly the first and crucial step if the learner is to be properly oriented to learn what the teacher intends that he will. To indicate that this is the bottom rung of the ladder, however, is not at all to imply that the teacher is starting de novo. Because of previous experience (formal or informal), the student brings to each situation a point of view or set which may facilitate or hinder his recognition of the phenomena to which the teacher is trying to sensitize him.

The category of Receiving has been divided into three sub-categories to indicate three different levels of attendance to phenomena. While the division points between the sub-categories are arbitrary, the sub-categories do represent a continuum. From an extremely passive position or role on the part of the learner, where the sole responsibility for the evocation of the behavior rests with the teacher--that is, the responsibility rests with him for "capturing" the student's attention--the continuum extends to a point at which the learner directs his attention, at least at a semiconscious level, toward the preferred stimuli.

1.1 AWARENESS

Awareness is almost a cognitive behavior. But unlike Knowledge, the lowest level of the cognitive domain, we are not so much concerned with a memory of, or ability to recall, an item or fact as we are that, given appropriate opportunity, the learner will merely be conscious of something--that he takes into account a situation, phenomenon, object, or stage of affairs. Like Knowledge, it does not imply an assessment of the qualities or nature of the stimulus, but unlike Knowledge it does not necessarily imply attention. There can be simple awareness without specific discrimination or recognition of the objective characteristics of the object, even though these characteristics must be deemed to have an effect. The individual may not be able to verbalize the aspects of the stimulus which cause the awareness.

Develops awareness of aesthetic factors in dress, furnishings, architecture, city design, good art, and the like.

Develops some consciousness of color, form, arrangement, and design in the objects and structures around him and in descriptive or symbolic representations of people, things, and situations.*

1.2 WILLINGNESS TO RECEIVE

In this category we have come a step up the ladder but are still dealing with what appears to be cognitive behavior. At a minimum level, we are here describing the behavior of being willing to tolerate a given stimulus, not to avoid it. Like Awareness it involves a neutrality or suspended judgment toward the stimulus. At this level of the continuum the teacher is not concerned that the student seek it out, nor even, perhaps, that in an environment crowded with many other stimuli the learner will necessarily attend to the stimulus. Rather, at worst, given the opportunity to attend in a field with relatively few competing stimuli, the learner is not actively seeking to avoid it. At best, he is willing to take notice of the phenomenon and give it his attention.

Attends (carefully) when others speak--in direct conversation, on the telephone, in audiences.

Appreciation (tolerance) of cultural patterns exhibited by individuals from other groups--religious, social, political, economic, national, etc.

Increase in sensitivity to human need and pressing social problems.

1.3 CONTROLLED OR SELECTED ATTENTION

At a somewhat higher level we are concerned with a new phenomenon, the differentiation of a given stimulus into figure and ground at a conscious or perhaps semiconscious level--the differentiation of aspects of a stimulus which is perceived as clearly marked off from adjacent impressions. The perception is still without tension or assessment, and the student may not know the technical terms or symbols with which to describe it correctly or precisely to others. In some instances it may refer not so much to the selectivity of attention as to the control of attention, so that when certain stimuli are present they will be attended to. There is an element of the learner's controlling the attention here, so that the favored stimulus is selected and attended to despite competing and distracting stimuli.

Listens to music with some discrimination as to its mood and meaning and with some recognition of the contributions of various musical elements and instruments to the total effect.

Alertness toward human values and judgments on life as they are recorded in literature.

2.0 RESPONDING

At this level we are concerned with responses which go beyond merely attending to the phenomenon. The student is sufficiently motivated that he is not just 1.2 Willing to attend, but perhaps it is correct to say that he is actively attending. As a first stage in a "learning by doing" process the student is commiting himself in some small measure to the phenomena involved. This is a very low level of commitment, and we would not say at this level that this was "a value of his" or that he had "such and such an attitude." These terms belong to the next higher level that we describe. But we could say that he is doing something with or about the phenomenon besides merely perceiving it, as would be true at the next level below this of 1.3 Controlled or selected attention.

This is the category that many teachers will find best describes their "interest" objectives. Most commonly we use the term to indicate the desire that a child becomes sufficiently involved in or committed to a subject, phenomenon, or activity that he will seek it out and gain satisfaction from working with it or engaging in it.

2.1 ACQUIESCENCE IN RESPONDING

We might use the word "obedience" or "compliance" to describe this behavior. As both of these terms indicate, there is a passiveness so far as the initiation of the behavior is concerned, and the stimulus calling for this behavior is not subtle. Compliance is perhaps a better term than obedience, since there is more of the element of reaction to a suggestion and less of the implication of resistance or yielding unwillingly. The student makes the response, but he has not fully accepted the necessity for doing so.

Willingness to comply with health regulations.
Obeys the playground regulations.

2.2 WILLINGNESS TO RESPOND

The key to this level is in the term "willingness," with its implication of capacity for voluntary activity. There is the implication that the learner is sufficiently committed to exhibiting the behavior that he does so not just because of a fear of punishment, but "on his own" or voluntarily. It may help to note that the element of resistance or of yielding unwillingly, which is possibly present at the previous level, is here replaced with consent or proceeding from one's own choice.

Acquaints himself with significant current issues in international, political, social and economic affairs through voluntary reading and discussion.

Acceptance of responsibility for his own health and for the protection of the health of others.

2.3 SATISFACTION IN RESPONSE

The additional element in the step beyond the Willingness to respond level, the consent, the assent to responding, or the voluntary response, is that the behavior is accompanied by a feeling of satisfaction, an emotional response, possibly of pleasure, zest, or enjoyment. The location of this category in the hierarchy has given us a great deal of difficulty. Just where in the process of internalization the attachment of an emotional response, kick, or thrill to a behavior occurs has been hard to determine. For that matter there is some uncertainty as to whether the level of internalization at which it occurs may not depend on the particular behavior. We have even questioned whether it should be a category. If our structure is to be a hierarchy, then each category should include the behavior in the next level below it. The emotional component appears gradually through the range of internalization categories. The attempt to specify a given position in the hierarchy as the one at which the emotional component is added is doomed to failure.

The category is arbitrarily placed at this point in the hierarchy where it seems to appear most frequently and where it is cited as or appears to be an important component of the objective at the level of the continuum. The category's inclusion at this point serves the pragmatic purpose of reminding us of the presence of the emotional component and its value in the building of affective behaviors. But it should not be thought of as appearing and occuring at this one point in the continuum and thus destroying the hierarchy which we are attempting to build.

Enjoyment of self-expression in music and in arts and crafts as another means of personal enrichment.

Finds pleasure in reading for recreation.
Takes pleasure in conversing with many different kinds of people.

3.0 VALUING

This is the only category headed by a term which is in common use in the expression of objectives by teachers. Further, it is employed in its usual sense: that a thing, phenomenon, or behavior has worth. This abstract concept of worth is in part a result of the individual's own valuing or assessment, but it is much more a social product that has been slowly internalized or accepted and has come to be used by the student as his own criterion of worth.

Behavior categorized at this level is sufficiently consistent and stable to have taken on the characteristics of a belief or an attitude. The learner displays this behavior with sufficient consistency in appropriate situations that he comes to be perceived as holding a value. At this level, we are not concerned with the relationships among values but rather with the internalization of a set of specified, ideal, values. Viewed from another standpoint, the objectives classified here are the prime stuff from which the conscience of the individual is developed into active control of behavior.

This category will be found appropriate for many objectives that use the term "attitude" (as well as, of course, "value").

An important element of behavior characterized by Valuing is that it is motivated, not by the desire to comply or obey, but by the individual's commitment to the underlying value guiding the behavior.

3.1 ACCEPTANCE OF A VALUE

At this level we are concerned with the ascribing of worth to a phenomenon behavior, object, etc. The term "belief," which is defined as "the emotional acceptance of a proposition or doctrine upon what one implicitly considers adequate ground" (English and English, 1958, p. 64), described quite well what may be thought of as the dominant characteristic here. Beliefs have varying degrees of certitude. At this lowest level of Valuing we are concerned with the lowest levels of certainty; that is, there is more of a readiness to re-evaluate one's position than at the higher levels. It is a position that is somewhat tentative.

One of the distinguishing characteristics of this behavior is consistency of response to the class of objects, phenomena, etc. with which the belief or attitude is identified. It is consistent enough so that the person is perceived by others as holding the belief or value. At the level we are describing here, he is both sufficiently consistent that others can identify the value, and sufficiently committed that he is willing to be so identified.

Continuing desire to develop the ability to speak and write effectively.
Grows in his sense of kinship with human beings of all nations.

3.2 PREFERENCE FOR A VALUE

The provision for this subdivision arose out of a feeling that there were objectives that expressed a level of internalization between the mere acceptance of a value and commitment or conviction in the usual connotation of deep involvement in an area. Behavior at this level implies not just the acceptance of a value to the point of being willing to be identified with it, but the individual is sufficiently committed to the value to pursue it, to seek it out, to want it.

Assumes responsibility for drawing reticent members of a group into conversation.
Deliberately examines a variety of viewpoints on controversial issues with a view to forming opinions about them.
Actively participates in arranging for the showing of contemporary artistic efforts.

3.3 COMMITMENT

Belief at this level involves a high degree of certainty. The ideas of "conviction" and "certainty beyond a shadow of a doubt" help to convey further the level of behavior intended. In some instances this may border on faith, in the sense of its being a firm emotional acceptance of a belief upon admittedly nonrational grounds. Loyalty to a position, group, or cause would also be classified here.

The person who displays behavior at this level is clearly perceived as holding the value. He acts to further the thing valued in some way, to extend the possibility of his developing it, to deepen his involvement with it and with the things representing it. He tries to convince others and seeks converts to his cause. There is a tension here which needs to be satisfied; action is the result of an aroused need or drive. There is a real motivation to act out the behavior.

Devotion to those ideas and ideals which are the foundations of democracy. Faith in the power of reason and in methods of experiment and discussion.

4.0 ORGANIZATION

As the learner successively internalizes values, he encounters situations for which more than one value is relevant. Thus necessity arises for (a) the organization of the values into a system, (b) the determination of the interrelationships among them, and (c) the establishment of the dominant and pervasive ones. Such a system is built gradually, subject to change as new values are incorporated. This category is intended as the proper classification for objectives which describe the beginnings of the building of a value system. It is subdivided into two levels, since a prerequisite to interrelating is the conceptualization of the value in a form which permits organization. Conceptualization forms the first subdivision in the organization process, Organization of a value system, the second.

While the order of the two subcategories seems appropriate enough with reference to one another, it is not so certain that 4.1 Conceptualization of a value is properly placed as the next level above 3.3 Commitment. Conceptualization undoubtedly begins at an earlier level for some objectives. Like 2.3 Satisfaction in response, it is doubtful that a single completely satisfactory location for this category can be found. Positioning it before 4.2 Organization of a value system appropriately indicates a prerequisite of such a system. It also calls attention to a component of affective growth that occurs at least by this point on the continuum but may begin earlier.

4.1 CONCEPTUALIZATION OF A VALUE

In the previous category, 3.0 Valuing, we noted that consistency and stability are integral characteristics of the particular value or belief. At this level (4.1) the quality of abstraction or conceptualization is added. This permits the individual to see how the value relates to those that he already holds or to new ones that he is coming to hold.

Conceptualization will be abstract, and in this sense it will be symbolic. But the symbols need not be verbal symbols. Whether conceptualization first appears at this point on the affective continuum is a moot point, as noted above.

Attempts to identify the characteristics of an art object which he admires.

Forms judgments as to the responsibility of society for conserving human and material resources.

4.2 ORGANIZATION OF A VALUE SYSTEM

Objectives properly classified here are those which require the learner to bring together a complex of values, possibly disparate values, and to bring these into an ordered relationship with one another. Ideally, the ordered relationship will be one which is harmonious and internally consistent. That is, of course, the goal of such objectives, which seek to have the student formulate a philosophy of life. In actuality, the integration may be something less than entirely harmonious. More likely the relationship is better described as a kind of dynamic equilibrium which is, in part, dependent upon those portions of the environment which are salient at any point in time. In many instances the organization of values may result in their synthesis into a new value complex of a higher order.

Weights alternative social policies and their practices against the standards of the public welfare rather than the advantage of specialized and narrow interest groups.

Develops a plan for regulating his rest in accordance with the demands of his activities.

5.0 CHARACTERIZATION BY A VALUE OR VALUE COMPLEX

At this level of internalization the values already have a place in the individual's value hierarchy, are organized into some kind of internally consistent system, have controlled the behavior of the individual for a sufficient time that he has adapted to behaving this way; and an evocation of the behavior no longer arouses emotion or affect except when the individual is threatened or challenged.

The individual acts consistently in accordance with the values he has internalized at this level, and our concern is to indicate two things: (a) the generalization of this control to so much of the individual's behavior that he is described and characterized as a person by these pervasive controlling tendencies, and (b) the integration of these beliefs, ideas, and attitudes into a total philosophy or world view. These two aspects constitute the subcategories.

5.1 GENERALIZED SET

The generalized set is that which gives an internal consistency to the system of attitudes and values at any particular moment. It is selective responding at a very high level. It is sometimes spoken of as a determining tendency, an orientation toward phenomena, or a predisposition to act in a certain way.

The generalized set is a response to highly generalized phenomena. It is a persistent and consistent response to a family of related situations or objects.

It may often be an unconscious set which guides action without conscious forethought. The generalized set may be thought of as closely related to the idea of an attitude cluster, where the commonality is based on behavioral characteristics rather than the subject or object of the attitude. A generalized set is a basic orientation which enables the individual to reduce and order the complex world about him and to act consistently and effectively in it.

Readiness to revise judgments and to change behavior in the light of evidence.

Judges problems and issues in terms of situations, issues, purposes, and consequences involved rather than in terms of fixed, dogmatic percepts or emotionally wishful thinking.

5.2 CHARACTERIZATION

This, the peak of the internalization process, includes those objectives which are broadest with respect both to the phenomena covered and to the range of behavior which they comprise. Thus, here are found those objectives which concern one's view of the universe, one's philosophy of life, one's Wellanschauung--a value system having as its object the whole of what is known or knowable.

Objectives categorized here are more than generalized sets in the sense that they involve a greater inclusiveness and, within the group of attitudes, behaviors, beliefs, or ideas, an emphasis on internal consistency. Though this internal consistency may not always be exhibited behaviorally by the students toward whom the objective is directed, since we are categorizing teachers' objectives, this consistency feature will always be a component of Characterization objectives.

As the title of the category implies, these objectives are so encompassing that they tend to characterize the individual almost completely.

Develops for regulation of one's personal and civic life a code of behavior based on ethical principles consistent with democratic ideals.

Develops a consistent philosophy of life.

---

*Illustrative objectives selected from the literature follow the description of each sub-category.

APPENDIX C

THE CLASSIFICATION OF EDUCATIONAL OBJECTIVES: PSYCHOMOTOR DOMAIN

Need for Classification System for Educational Objectives, Psychomotor Domain

Simpson [26] has made use of the two taxonomies of educational objectives already developed (the cognitive and the affective domains). She and others feel there has been a great need for a classification system for educational objectives in the psychomotor domain, for use in the development of curriculum materials and as a basis for evaluation of educational outcomes.

Simpson believes that the psychomotor domain has relevance for education in general and also for many areas of specialization in secondary and higher education.

A classification system for psychomotor objectives has all of the advantages of the classification systems for the other two domains. It can be helpful in research on teaching for the development of motor abilities and skills. Teachers and curriculum makers can use it in developing materials for classroom use; and test makers can use it to communicate more easily with those they serve. Perhaps the greatest benefit will accrue from rounding out the three domains, and thus will provide for better study of the total field of objectives and the planning of educational programs in response to objectives broadly conceived.

Definitions of Terms

Simpson[26] arrived at certain useful definitions in the psychomotor domain. These are as follows:

psychomotor objectives - those which emphasize some muscular or motor skill, some manipulation of material and objects, or some act which requires a neuromuscular coordination. These objectives are stated in terms of abilities and skills.

perception - the process of becoming aware of objects, qualities, or relations by way of sense organs.

sensory stimulation - impingement of a stimulus (i) upon one or more of the sense organs.

stimulus - the source of energy which affects a sense organ; what the behavior is responding to in a situation.

cues - a stimulus which serves as a sign or signal of something else, the connection having been previously learned.

visual - concerned with the mental pictures or images obtained through the eyes.

visual cues - color, spatial relations, shape (line, form, size), motion, light and shade.

auditory - pertaining to hearing or the sense or organs of hearing.

auditory cues - volume, pitch, timbre, distance, pattern of sounds.

tactile - pertaining to the sense of touch.

tactile cues - texture, temperature, shape, size, pressure, position, state of motion, weight.

taste - ascertaining the relish or flavor of by taking some into the mouth.

taste cues - saltiness, sourness, bitterness, sweetness

smell - to perceive by excitation of the olfactory nerves.

smell cues - (odors) - ethereal, such as fruity, lemon; fragrance, as violet burned, as tar; putrid, as bad fish; resinous, as pine; spicy, as cloves.

kinesthetic - the muscle sense; pertaining to sensitivity from activation of receptors in muscles, tendons, and joints.

cue selection - deciding what cues one must respond to in order to satisfy the particular requirement of task performance.

reflex action - an act, as a movement, performed involuntarily in consequence of a nervous impulse transmitted inward from a receptor, or sense organ, to a nerve center and outward to an effector, as a muscle or gland.

set - a preparatory adjustment or readiness for a particular kind of action or experience.

mental set - readiness, in the mental sense, to perform a certain motor act.

physical set - readiness in the sense of having made the anatomical and postural adjustments necessary for the motor act to take place.

emotional set - readiness in terms of attitudes favorable to the motor act's taking place.

translation process - process of relating perception to action.

response - overt behavioral act of an individual.

mechanism - a habitual way of responding.

readiness to respond - set to produce an overt behavioral act.

gross motor acts - those involving the large muscle groups of the body, especially of the shoulders, trunk, and legs.

fine motor acts - those that are performed by small muscles, especially of the fingers, hand and forearm, frequently involving eye-hand coordination.

Examples of Usage

Two examples of what happens in what sequence when one is working toward the achievement of an objective in this domain are as follows:

OBJECTIVE	SEQUENCE OF ACTION IN CARRYING OUT TASK
A. Ability to stack a tray.	1. Perception Visual, tactile, and kinesthetic

2. Set
    - Mental set-discrimination
    - Physical set - receptor set, and postural set

3. Response
    - Readiness
    - Selection of response
        - Imitation
            - Gross muscular activity

4. Mechanism - Response is learned

5. Complex overt response
    - Resolution of uncertainty
    - Automatic performance

B. Ability to carry a large tray

1. Perception
    - 1.12 Visual

2. Set
    - 2.10 Mental set
        - 2.11 Discrimination
    - 2.20 Physical set
        - 2.21 Receptor set
        - 2.22 Postural set

3. Response
    - 3.10 Readiness to respond
    - 3.20 Selection of response
        - 3.21 Imitation
        - 3.22 Trial and error

4. Mechanism - Learned response

5. Complex
    - 5.10 Resolution of uncertainty
    - 5.20 Automatic performance

The Schema

The following schema for classification of Educational Objectives in the psychomotor domain is presented with the knowledge that it is still in tentative form and probably needs more research in certain areas. Simpson believes that the schema in its present form will be useful to education. Whether there is sufficient distinction between one catagory and another is still a question. Perhaps additional sub-categories to improve the discrimination are needed for some of the major sections.

The major operative organization principle is that of complexity, with attention to the sequence involved in the performance of a motor act.

1.00 Perception - This is an essential first step in performing a motor act. It is the process of becoming aware of objects, qualities, or relations by way of the sense organs. It is the central portion of the situation - interpretation - action chain leading to purposeful motor activity.

The category of perception has been divided into three sub-categories indicating three different levels with respect to perception process. It seems to the investigator that this level is a parallel of the first category, receiving or attending, in the affective domain.

1.1 Sensory stimulation - Impingement of a stimulus (1) upon one or more of the sense organs.

1.11 Auditory - Hearing or the sense or organs of hearing

1.12 Visual - Concerned with the mental pictures or images obtained through the eyes

1.13 Tactile - Pertaining to the sense of touch

1.14 Taste - Ascertain the relish or flavor of by taking a portion into the mouth

1.15 Smell - To perceive by excitation of the olfactory nerves

1.6 Kinesthetic - The muscle sense; pertaining to sensitivity from activation of receptors in muscles, tendons, and joints.

The preceding categories are not presented in any special order of importance, although, in Western cultures, the visual cues are said to have dominance, whereas in some cultures, the auditory and tactile cues may pre-empt the high position we give the visual. Probably no sensible ordering of these is possible. It should also be pointed out that "the cues that guide action may change for a particular motor activity as learning progresses (e.g., kinesthetic cues replacing visual cues)" /51/.

1.1 Sensory stimulation - Illustrative educational objectives.

Sensitivity to auditory cues in playing a musical instrument as a member of a group

Awareness of difference in "hand" of various fabrics.

Sensitivity to flavors in seasoning food.

1.2 Cue selection - Deciding to what cues one must respond in order to satisfy the particular requirements of task performance.

This involves identification of the cue or cues and associating them with the task to be performed. It may involve grouping of cues in terms of past experience and knowledge. Cues relevant to the situation are selected as a guide to action; irrelevant cues are ignored or discarded.

1.2 Cue selection - Illustrative educational objectives.

Recognition of operating difficulties with machinery through the sound of the machine in operation.

Sensing where the needle should be set in beginning machine stitching.

Recognizing factors to take into account in batting in a softball game.

1.3 Translation - Relating of perception to action in performing a motor act. This is the mental process of determining the meaning of the cues received for action. It involves symbolic translation, that is, having an image or being reminded of something, "having an idea," as a result of cues received. It may involve insight which is essential in solving a problem through perceiving the relationships essential to solution. Sensory translation is an aspect of this level. It involves "feedback," that is, knowledge of the effects of the process; translation is a continuous part of the motor act being performed.

1.3 Translation - Illustrative educational objectives.

Ability to relate music to dance form.

Ability to follow a recipe in preparing food.

Knowledge of the "feel" of operating a sewing machine successfully and use of this knowledge as a guide in stitching.

2.0 Set - Set is a preparatory adjustment or readiness for a particular kind of action or experience.

Three aspects of set have been identified: mental, physical, and emotional.

2.1 Mental set - Readiness, in the mental sense, to perform a certain motor act. This involves, as prerequisite, the level of perception and its sub-categories which have already been identified. Discrimination, that is, using judgment in making distinctions is an aspect.

2.1 Mental set - Illustrative educational objectives.

Knowledge of steps in setting the table.

Knowledge of tools appropriate to performance of various sewing operations.

2.2 Physical set - Readiness in the sense of having made the anatomical adjustments necessary for a motor act to be performed. Readiness, in the physical sense, involves receptor set, that is, sensory attending, or focusing the attention of the needed sensory organs and postural set, or positioning of the body.

2.2 Physical set - Illustrative educational objectives.

Achievement of bodily stance preparatory to bowling.

Positioning of hands preparatory to typing.

2.3 Emotional set - Readiness in terms of attitudes favorable to the motor act's taking place. Willingness to respond is implied.

2.3 Emotional set - Illustrative educational objectives.

Disposition to perform sewing machine operation to best of ability.

Desire to operate a production drill press with skill.

3.0 Guided response - This is an early step in the development of skill. Emphasis here is upon the abilities which are components of the more complex skill. Guided response is the overt behavioral act of an individual under the guidance of the instructor. Prerequisite to performance of the act are readiness to respond, in terms of set to produce the overt behavioral act and selection of the appropriate response. Selection of response may be defined as deciding what response must be made in order to satisfy the particular requirements of task performance. There appear to be two major subcategories, imitation and trial and error.

3.1 Imitation - Imitation is the execution of an act as a direct response to the perception of another person performing the act.

3.1 Imitation - Illustrative educational objectives.

Imitation of the process of stay-stitching the curved neck edge of a bodice.

Performing a dance step as demonstrated.

Debeaking a chick in the manner demonstrated.

3.2 Trial and error - Trying various responses, usually with some rationale for each response, until an appropriate response is achieved. The appropriate response is one which meets the requirements of task performance, that is, "gets the job done" or does it more efficiently. This level may be defined as multiple-response learning in which the proper response is selected out of varied behavior, possibly through the influence of reward and punishment.

3.2 Trial and error - Illustrative educational objectives.

Discovering the most efficient method of ironing a blouse through trial of various procedures.

Ascertaining the sequence for cleaning a room through trial of several patterns.

4.0 Mechanism - Learned response has become habitual. At this level, the learner has achieved a certain confidence and degree os skill in the performance of the act. The act is a part of his repertoire of possible responses to stimuli and the demands of situations where the response is an appropriate one. The response may be more complex than at the preceding level; it may involve some patterning of response in carrying out the task. That is, abilities are combined in action of a skill nature.

4.0 Mechanism - Illustrative educational objectives.

Ability to perform a hand-hemming operation.

Ability to mix ingredients for a butter cake.

Ability to pollinate an oat flower.

5.0 Complex overt response - At this level, the individual can perform a motor act that is considered complex because of the movement pattern required. At this level, a high degree of skill has been attained. The act can be carried out smoothly and efficiently, that is, with maximum expenditure of time and energy. There are two sub-categories: resolution of uncertainty and automatic performance.

5.1 Resolution of uncertainty - The act is performed without hesitation of the individual to get a mental picture of task sequence. That is, he knows the sequence required and so proceeds with confidence. The act is here defined as comples in nature.

5.1 Resolution of uncertainty - Illustrative educational objectives.

Skill in operating a milling machine.

Skill in setting up and operating a production band saw.

Skill in laying a pattern on fabric and cutting out a garment.

5.2 Automatic performance - At this level, the individual can perform a finely coordinated motor skill with a great deal of ease and muscle control.

5.2 Automatic performance - Illustrative educational objectives.

Skill in performing basic steps of national folk dances.

Skill in tailoring a suit.

Skill in performing on the violin.

Further Considerations

A question that needs further investigation is: Does there perhaps exist a sixth major category which might be designated as the adapting or originating domain? Possibly such a level is needed. At this level, the individual might be so skilled that he can adapt the action in terms of the specific requirements of the individual performer and the situation. He might originate new patterns of action in solving a specific problem. Alternatively, do these activities take place at all levels? Must the individual have attained a high degree of skill in order to adapt and originate?

APPENDIX D

LESSON PLANS

General Comments on Lesson Plan Construction

Continuations of lesson planning on a day-by-day basis become unwieldy and the plans are difficult to use in the classroom. In field trials, the experimental teachers found that a better and more workable method was to divide the curriculum into its various components and plan each component separately on a "sequence" basis. For example, reading, mathematics, social studies, etc., were planned separately and each section was used separately in the classroom. This method allows the teacher greater flexibility and greater ease in handling the lesson plans. Sequential planning by curricular area allows progression without confusion and the pace may be more easily geared to the abilities of the classroom groups.

STANDARDIZED INSTRUCTIONAL MATERIALS FOR THE SWCEL FIRST-GRADE CURRICULUM

Language Arts

Follett: *Book A, Spelling and Writing Patterns*

Ginn: Reading Program

- Readiness: *Fun with Tom and Betty*
- Pre-primer: *My Little Red Story Book*
  - *My Little Green Story Book*
  - *My Little Blue Story Book*
- Primer: *Little White House*
- First Reader: *On Cherry Street*

Supplementary Material:

1. Accompanying Workbooks
2. Self-help Activities for *Little White House* and *On Cherry Street*
3. Reading Achievement Tests
4. Teacher's Editions

Lippincott: *Reading With Phonics, Teacher's Edition*

Sounds, Letters and Words, Teacher's Edition

Phonics Picture Cards (set of 35)

Merrill: *Seesaw* (primer) (one per teacher)

Teacher's Guide to *Seesaw*

Mathematics

Addison-Wesely: *Elementary School Mathematics, Book I*

Science

D. C. Heath: Science for Work and Play

Social Studies

Silver Bundett Picture Packets (one per classroom)

1. Living in Kenya
2. Living in Brazil
3. The Earth, Home of People

Silver Bundett Books (one per classroom)

1. Pets Around the World
2. Fun Around the World
3. Homes Around the World
4. Schools Around the World
5. Work Around the World

Scott-Foresman Book (one per classroom)

At School, Hanna and Hoyt

Beginners Globe

U. S. Map

World Map

Revised Draft
OPENING EXERCISES

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
	The child will:	
1. Pledge to the Flag	1. Stand up straight and tall, face the flag, place his right hand over his heart, and mouth the words of "The Pledge of Allegiance" with the teacher.	
2. Opening Songs Develop a sense of security and friendship.	2. Mouth or say the words with the teacher. He will sing with the teacher.	
3. Helpers Chart (once a week)	3. Volunteer for a helping job for one week.	
4. Health Check.	4. Pass a health check by having combed hair, clean hands, clean ears, clean fingernails, and clean face.	
5. Weather Chart	5. Move the turtle's head to the correct weather condition.	
6. Calendar	6. (1) Name the day of the week. (2) Place the numeral indicating that day's date on the calendar.	
7. News - Record in complete sentences on the board. Read the news with the children.	7. State the things he will do during the day, e.g., write, color, work with numbers, sing, etc.	
8. Attend to routine classroom duties, e.g., lunch count, attendance, etc.		

Revised Draft
DAY 1

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
I. Introduction Acquaint the class with the immediate surroundings, e.g., interest centers, bulletin boards, the cafeteria, the restrooms, etc. Instill a sense of security. Give the children name tags. Introduce the children to each other.	I. The child will: 1. Repeat the teacher's na,e. 2. Not get lost in the school building. 3. Identify the classroom areas by pointing to or talking about the interest centers, reading areas, and bulletin boards in response to teacher questions.	
II. Nursery rhyme on bulletin board 1. Say and pantomime "Jack and Jill," Humpty Dumpty," and"Mary Had a Little Lamb." Provide the child with physical movement and consequently a sense of security and enjoyment.	II. The child will: 1. Indicate participation by mouthing "Jack and Jill," "Humpty Dumpty," and "Mary Had a Little Lamb."	
III. Rules 1. Discuss school rules (varies with the school).	III. The child will: 1. Exhibit knowledge of school rules by obeying them.	

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
IV. Flag Explain to the children how fortunate they are to live in America and why they should respect the flag. Teach patriotism and respect.	IV. Flag 1. See "Opening Exercises" cover paper.	
V. Finger Plays 1. "Three Balls" (stress for afternoon paper). 2. "Two Turtles" and a Number Finger Game. (See Poems and Finger Play Folder)	V. Finger Plays 1 - 2. The child will demonstrate the ability to follow oral and visual directions by mimicking and repeating the teacher's actions and words of the Finger Plays.	
VI. Rest Time Explain to the children that their bodies require rest, especially after hard work and play. Have the children put their heads down on their desks for ten minutes.	VI. Rest Time 1. The child will put his head down on his desk during rest time.	
VII. Story Time Read a story (story varies with the school)	VII. Story Time 1. The child will not disturb the class by talking or moving about.	

Revised Draft
DAY 1

LESSON PLAN AND TEACHER OBJECTIVE	PUPIL OBJECTIVES	REMARKS
VIII. Seatwork 1. Fingerplay paper. Drama - ball 2. Explain to the children that their names should be on each paper they turn in, and point out that they should copy from the name tags on their desks if necessary.	VIII. Seatwork The child will: 1. Draw three different sized balls with his crayons. 2. Print his own first name.	
IX. Music 1. Introduce the "Mulberry Bush Number Song" (see song folder). 2. Have the children sing "Pretty Trappings" TE, p. 6, Making Music Your own. 3. Have the children sing "Mary Had a Little Lamb."	IX. Music The child will: 1. "Mulberry Bush Number Song" (1) Say and sing the numeral 1. (2) Skywrite the numeral one with the teacher by making a large body movement with his arm. (3) Imitate the teacher as she faces the class and uses the paper with the number in front. 2. "Pretty Trappings" (1) Follow the steady beat of the music by moving the part of the body that the teacher moves, such as the foot, one hand, one shoulder, one eye, and one ear. 3. "Mary Had a Little Lamb" (1) Sing with the teacher.	

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
X. Closing 1. Help the children recall the activities of the day. Write these activities on the board as dictated by the children. Have the children take the ball paper home.	X. Closing 1. The child will carry the ball paper out of of the classroom.	

Revised Draft
DAY 2

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
1. Opening Excercises (see cover sheet) 1. Pledge to the Flag. 2. Good Morning Song (see Song Folder) 3. Health Check 4. Weather Chart 5. Calendar 6. News 7. Routine classroom duties, e.g., lunch count, attendance, etc.	I. See "Opening Exercises" cover sheet for objectives 1 - 7.	
II. Seatwork 1. Ditto - Trace and color paper (see Seatwork Folder - ditto 2) 2. Have children look for something red in the room and draw it on the back of trace paper. (cont'd)	II. Seatwork The child will: 1. Trace all the balls. He will color the ball that is different red. He will stay within the lines. 2. Look for something red in the room and draw it on the back of seatwork paper #1.	

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
II. Seatwork (cont'd) 3. Ditto - Trace paper 4. Ditto - Red recognition ** 5. Have the children fold a large piece of newsprint into three sections and draw three balls (each larger than the other). Have the children turn the paper over and write name. (to be kept for folder) Materials: Large newsprint	II. Seatwork (cont'd) 3. Hold a crayon (without making a fist) and trace the outline of the cap and ball. 4. Recognize the color red by using his red crayon to color the flower. ** 5. Give evidence of the meaning of the words big, bigger, biggest by drawing three balls, each larger than the preceding one.	
III. Reading Reading Readiness Manual, pp. 1, 2, 3. (cont'd)	III. Reading COVER PAGE The child will: (1) Be able to say the name of the book. (2) Turn the page with his thumb and index finger. (3) Find pictures of TOM and BETTY. (4) Find the words "TOM" and "BETTY." (5) Find the title, "Fun with Tom and Betty." PAGE 1 (1) Point to TOM, BETTY, SUSAN and FLIP. (2) Tell what the children are doing. (3) Answer questions about the picture. (4) Volunteer to tell the story. (cont'd)	

Revised Draft
DAY 2

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
III. Reading (cont'd)	III. Reading (cont'd) PAGE 2 (1) Point to the top icture. (2) Answer questions about the picture. (3) Look at picture #2 and follow the above directions. PAGE 3 (1) Show his left and right hand. (2) A volunteer will trace the broken lines on the board. (3) Use his pointer finger totrace from the character to the toy. (4) Answer questions about the action picture.	
IV. Math 1. Have the children sing "Mulberry Bush Number song" (review of numeral presented the previous day) (see Song Folder). 2. Introduce the numeral 2.	IV. Math The child will: 1. Sing the "Mulberry Bush Number Song." 2. Skywrite the numerals 1 and 2 (see Day 1 for objectives).	
V. Rest, Fine Arts and Storytime 1. Read a story. 2. Play "Mary Had a Little Lamb." Review Jack and Jill." (cont'd)	V. Rest, Fine Arts and Storytime The child will: 1. Listen to a story (see Day 1 for objectives). 2. Sing "Mary Had a Little Lamb," and Jack and Jill." (cont'd)	

Revised Draft
DAY 2

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
V. Rest, Fine Arts and Storytime (cont's) 3. Finger Play - "Open, Shut Them" (fingerplay Folder, fingerplay #4) 4. Sing "Heads, Shoulders, Knees and Toes" (see Song Folder).	V. Rest, Fine Arts and Storytime (cont'd) 3. Participate in the finger play "Open, Shut them" (see Day 1 objectives). 4. (1) Mouth the song. (2) Sing the song. (3) Move his head, shoulders, knees, and toes as dictated by the song.	
VI. Phonics 1. Review fingerplay "Two Turtles" (see Fingerplay Folder, Fingerplay #2). Introduce fingerplay "10 Fingers" (Fingerplay #3). 2. Leave out rhyming words in: the "Ball" fingerplay, "Jack and Jill," "Humpty Dumpty," "Mary Had a Little Lamb." 3. Play the record - "Listen to This." Use chart.	VI. Phonics The child will: 1. Participate in fingerplays (see Day 1 for objectives). 2. Be able to reproduce sounds by saying the rhyming words. 3. Follow directions from the record by making some of the oral and physical responses called for.	
VII. Writing		

Revised Draft
DAY 2

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VIII. Social Studies Review the rules from Day 1 and add playground rules (see objectives for Day 2).	VIII. Social Studies The child will: 1. Not throw stones or sand. 2. Not walk in front of the swings, jump out of the swings, stand on the swings, or swing double. 3. Take turns on the playground equipment. 4. Stay in his own play area. 5. Stay away from other classrooms. 6. Not go to the principal's office to tattle.	
VIII. Science Introduce the book - *Science for Work and Play*.	VIII. Science The child will: 1. Bend down the front cover and press gently with his fingers. 2. Press down the nex few pages with his fingers, working toward the middle of the book. 3. Bend down the back cover and press gently with his fingers. 4. Find the title of the book. 5. Move his finger from left to right under the title. 6. Repeat the title after the teacher.	

Revised Draft
DAY 3

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
I. Opening Exercises (routing, "The Mulberry Bush Song" for number 2 (Song Folder #2) **	I. Opening Exercises **	
1. Administer the Goodenough Draw-A-Man Test (evaluation)	1. The child will draw the best man he can.	
II. Seatwork	II. Seatwork The child will:	
1. Ditto - Color paper (Seatwork Folder I, Day 3)	1. Trace and color the banana and lemon with a yellow crayon. He will recognize the color yellow and use his crayons correctly by: (1) selecting the yellow crayon; (2) tracing on the dotted lines; (3) coloring the picture yellow.	
2. Ditto - Nursery thyme "Little Miss Muffet"	2. Learn to manipulate tools by: (1) coloring the picture of the nursery rhyme; (2) staying within the lines.	
3. Cut and paste activity	3. Look for red objects and yellow objects in magazines. He will cut out pictures from magazines, recognize colors, and manipulate tools correctly. He will paste the pictures on newsprint.	3. This may be too difficult for the children.
Materials: magazines large newsprint		

Revised Draft
DAY 3

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
III. Reading - Readiness Manual, pp. 4-5	III. Reading PAGES 4-5 The child will: 1. Place his finger on the first picture. 2. Say the part of the rhyme that goes with the picture. 3. Repeat the above directions for the second, third and fourth pictures. 1. Look at picture 1. 2. Say part of the rhyme which is applicable. 1. Say the entire rhyme. 2. Repeat the rhyme. 3. Listen while the teacher says it again.	
III. Reading Readiness Manual, pp. 6-7 Review red and yellow. Add color "green" concept. Have child cover picture to be colored with a plastic sheet and color on the plastic, following the lines through the pastic. Materials: plastic sheets (8½" x 11") (cont'd)	PAGES 6-7 The child will: 1. Find his green crayon. 2. Place the green crayon beside the green crayon book. 3. Color the apple green (use plastic sheet). 4. Find his red crayon. 5. Place the red crayon beside the red crayon in book. 6. Color the apple red (use plastic sheet.) 7. Find his yellow crayon. 8. Place the yellow crayon beside the yellow crayon in the book. 9. Color the apple yellow (use plastic sheet). (cont'd)	

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
III. Reading, pp. 6-7 (cont'd) 2. Introduce and use the concept of "likeness."	III. Reading (cont'd) The child will: 1. Look at and name the first object in the top row. 2. Find another apple beside the first object and trace around it. 3. Say that the apples are the same shape and size.	
IV. Math Filmstrip "Taller, Shorter, Smaller, Bigger"	IV. Math The child will: 1. Answer specific questions to demonstrate how well he understands the concepts. 2. Draw pictures on the blackboard to illustrate the concepts "taller," "shorter," and "bigger." 3. Hold up tall or short objects as directed by the teacher. 4. Hold up small or large objects as directed by the teacher.	
V. Rest, Fine Arts and Storytime Hurry for School (see Story Folder) **While children are resting, call one child at a time to the teacher's desk and have him point to the red and the yellow crayon. Materials: box of crayons. Tally boys and girls. Record names.	V. Rest, Fine Arts and Storytime The child will: 1. Hurry for School (change) **(1) Point to red or yellow crayon at the teacher's direction	

Revised Draft
DAY 3

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VI. Phonics Rhyming - "One, Two, Buckle My Shoe," "Jack Be Nimble," "Two Little Turtles" (see Fingerplay Folder) Directions: Say known nursery rhymes to class. Have the children say them with you or teach them if they are not known. Leave out rhyming words or repeated refrain. Let the students insert them.	VI. Phonics The child will: 1. Listen for words that rhyme. 2. Say the correct rhyming words.	
VII. Writing 1. Instruct children to draw circles on large newsprint. 2. Instruct children to decorate circles (goes with "Mulberry Bush Song."	VII. Writing The child will: 1. Draw large circles. 2. Decorate the circles.	
VIII. Social Studies 1. Teach song "Our Classroom" (see Song Folder, #4)	VIII. Social Studies The child will: 1. Mouth the words the teacher says. 2. Hum and then sing the words.	

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VIII. Science Science for Work, pp. 1-2 1. Discuss safety on the way to school. *Play TE, pp. 25-27. 2. Discuss family life.	VIII. Science The child will: 1. Answer questions about safe places to walk, cross the street, etc. 2. Discuss safety rules he learned before starting school. 1. Tell how people take care of themselves. 2. Answer questions the teacher asks.	
IX. Art, Music, P.E. - none		
X. Closing - routine 1. Instill responsibility for the care of the room and their own materials. 2. Help children evaluate the day's activities	X. Closing The child will: 1. Clean out his desk. 2. Arrange materials neatly. 3. Put crayons in the box, etc.	

Revised Draft
DAY 4

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
I. Opening Exercises - See opening exercises folder 1. Introduce number 3 to tune of "Mulberry Bush" song.	I. Opening Exercises 1. The children will skywrite the numberal 3 with the teacher.	
II. Seatwork ** 1. Ditto - 4d - Likenesses and differences (Seatwork folder I, #4) (save in folder) 2. Ditto - Introduce word "green"	II. Seatwork The child will: ** 1. Put an X on the object that is different. 2. Use his green crayon to color the leaves green.	

Revised Draft
DAY 4

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
II. Seatwork (cont'd) 5. Creative - (1) On newsprint, have the children make a big green tree. (2) On another sheet of newsprint, have them make many red apples. (3) Have them cut out and paste apples on tree. (Ditto - Likeness and differences - Supplementary Readiness Material Folder #4)	II. Seatowrk (Cont'd) 5. Creative - Children will: (1) Make a big green tree. (2) Make many apples. (3) Cut out apples and paste on tree.	
III. Reading - Fun with Tom and Betty, pp.8-13 Manual, pp. 94-108	III. Reading PAGE 8 The child will: 1. Find page 8 in the book. 2. Answer questions about the action at the top and bottom of the page. PAGE 9 1. Put finger on the object in each row that is different. 2. Use a crayon and make an X on the object that is different on top of the pastic cover. PAGE 10 1. Listen to the tune of the "Mulberry Bush." 2. Sing the first verse with the teacher. 3. Place pointer finger on the left corner of the picture and move finger to the right for the next picture. 4. Act out and sing the first four verses.	

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
III. Reading (cont'd)	III. Reading (cont'd) TE 104-105, SE 12 & 13 PAGE 12 1. Draw a line under the like objects in each row. 2. Visually discriminate between concrete objects of different sizes (e.g. chalk, chairs, paper, books, etc.). 3. Walk to, sit in, pick up, or write with the above concrete objects as indicated by the teacher. PAGE 13 1. Find the first picture in the top row with his finger (not thumb) and tell what the dog is doing. 2. Draw a line (not a circle) under the dogs that are alike. 3. Do the same for the next three rows - with teacher direction for each row. 4. Put their markers under the first row.	

Revised Draft
DAY 4

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
IV. Math Introduce book Elementary School Mathematics, Addison and Wesley; talk about many and few (objects around room), pp. 1 - 2. Teachers Ed., p. 14. Children may look through the book. TE, p. 14, SE pp. 1 - 2	IV. Math Child will: 1. Hold book with the top at the top and the bottom at the bottom. 2. Find the title of the book with his pointer finger and listen while the teacher reads the title. 3. Read the title with the teacher. PAGE 1 Circle the set which has the greater number of objects. PAGE 2 Draw more or fewer objects in each box as indicated by the teacher.	
V. Rest, Fine Arts, Storytime Dramatization on Safety at Corners "New Shoes", p. 60, book SEESAW	V. Rest, Fine Arts, Storytime Walk, turn back, skip, and hop as the poem "New Shoes" indicates (at least walk).	

Revised Draft
DAY 4

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VI. Phonics - Reading With Phonics, TE, p. 3-4 Auditory discrimination listening, Game 1. Talk about Aă sound Look at phonetic picture card for Aă - apple. Have children say words that begin with ă. Teacher writes them on board. Have the children put their heads down and teacher says words that children have said beginning with ă and some that do not. Children raise their hands if the word does begin with ă. Children come to board and underline the ă sound in words they suggested. Children write Aă on tablet paper.	VI. Phonics Children will: 1. Put heads down on desks. 2. Raise hands when they hear a word that does begin with ă sound. 3. Come to board and underline the "a" sound in words they suggested. 4. Write Aă on tablet paper.	Stress construction of the stem and circle.

3

Revised Draft
DAY 4

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VIII. Social Studies Plan walk around the school. Talk about the members of the school family (people to look for around the school).	VIII. Social Studies The child will: 1. Tell the teacher and the class, the people or members of the school that they might see on their school walk (custodian, P. E. instructor, secretary, nurse, principal). 2. Need not speak in complete sentences or accurate grammar, but will convey the thought about the above item.	
VIII. Science - none		
IX. Art Directed activity - read poen "Traffic Light" (see poem folder), (TE for Reading Readiness Program, pp. 89-90). Have children make a traffic light, putting in red, yellow and green from construction paper. Display traffic lights in room.	IX. Art The child will: 1. Cut the corners off 5" squares of red, yellow and green paper. 2. Paste the red, yellow and green circle on a piece of paper. 3. Use small amount of paste.	
X. Closing		

Revised Draft
DAY 5

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
I. Opening Exercises - see folder song verse 4 of "Mulberry Bush Song" 1. Helpers Chart.	I. Opening Exercises The child will: 1. Mimic the teacher's motions (skywrite number 4) 2. See opening exercises for Helpers Chart.	
II. Seatwork (see Seatwork Folder I, Ditto #5) 1. Ditto - Eye-hand coordination: The teacher will draw the following pattern on the board: red yellow green 2. Ditto - Visual Discrimination 3. Ditto - nursery rhyme	II. Seatwork 1. Ditto The child will: (1) Color shapes from ditto paper. (2) Paste shapes on paper after looking at the pattern on the board. (3) Cut and paste correct shapes by following the pattern next to the color words on the board. 2. Ditto - (1) Put an X on the object that is different in each row. 3. Ditto - (1) Color Jack and Jill.	1. This activity may be delayed if necessary.
III. Reading R. R. book - pp. 14, 15, 16, 17. Read pp. 18-19 (cont'd)	III. Reading PAGES 14-15 The child will: 1. Tell the story in sequence. 2. Progress from left to right (see objective on Day 3, A2). 3. Describe action pictures. (cont'd)	

Revised Draft
DAY 5

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
III. Reading (cont'd) The teacher will imitate the sounds of specified animals.	III. Reading (cont'd) PAGES 16-17 The child will: 1. (1) Mark the animal in the first row that makes the sound the teacher is imitating. (2) Mark the animal in the next row that makes the sound the teacher makes. (3) Mark the animal in the last row that makes the sound the teacher makes. (4) Guess the answer to the riddle. 2. (1) Name the animals on the page. (2) Find the animal that lays eggs. (3) Put an X on the object that is different. (4) Find the first, second, third and fourth row.	
IV. Math The teacher will discuss sets and one-to-one correspondence. Workbook, pp. 3-4 *Teacher will keep this page for folder.	IV. Math The child will: 1. *Draw lines to show one-to-one correspondence. 2. *Show that the set of bees is equivalent to the set of flowers by drawing lines.	
V. Rest, Fine Arts and Storytime The teacher will read to the class.		

Revised Draft
DAY 5

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VI. Phonics - Reading with Phonics	VI. Phonics The child will:	
1. Auditory discrimination: Listening Game 2, p. 4. The teacher will have the children watch her lips as she reads words from p. 4 of Reading with Phonics. If teacher says a word that does begin with a, the children put a finger on their lips.	1. Put his finger on his lips when he hears a word that begins with an a.	
2. Visual discrimination: p. 5 of Reading with Phonics. The teacher will talk about the a sound, showing the phonetic picture card - APPLE. Children tell words that begin with a. The teacher will write the words beginning with a that the children tell her, plus words that do not begin with a on the board.	2. Say the name of the letter a.	
3. Children go to the board and draw an apple beside the words that begin with a.	3. Go to the board and draw an apple beside the words that begin with a.	
4. Children write Aa on tablet paper.	4. Write A and a on primary manuscript paper.	
Materials: Primary manuscript paper.		

Revised Draft
DAY 5

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VII. Writing - Practice circles, slanted lines and straight lines in shape of traffic light.	VII. Writing - The child will write short slant lines on one space, small circles one space and straight line 2 spaces in form of traffic light:	
VIII. Social Studies Take a trip through school to familiarize children with school facilities. Make an experience chart. Pupils dictate story which the teacher writes on the board and later copies onto chart paper for future reading.	VIII. Social Studies The child will: 1. Walk through the school. 2. Dictate experience chart by telling what he saw. 3. Read the story with the teacher.	
IX. Science Page 3 in student's book. Science for Work and Play TE 28 Experiment, "How to find the answer to a problem."	IX. Science Children will tell: 1. What happened when the dolls in the wagon went down the board. 2. Why the standing doll fell out. 3. What experiences occur in a family car when the driver makes a fast stop. 4. Why seatbelts are used.	
X. Art, Music, P. E. - none		
XI. Closing		

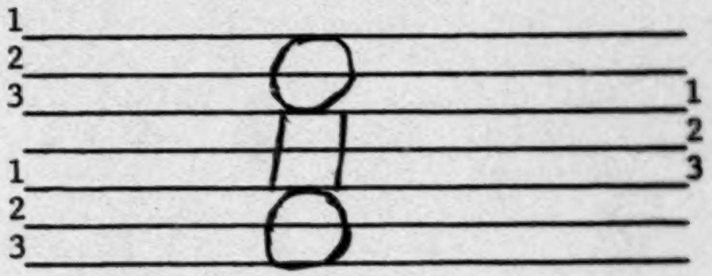
Revised Draft
DAY 6

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
I. Opening Exercises - General routine 1. The teacher will add verse 5 to the arithmetic song.	I. Opening Exercises The child will: 1. Skywrite the numeral 5 with the teacher.	
II. Seatwork (see Seatwork Folder I, dittos #6) 1. School picute (large paper) 2. *Ditto - Readiness - Discrimination 3. Ditto - review of the three colors previously taught (red, yellow, green) (folder) 4. Cutting out and coloring of circles.	II. Seatwork (AM) Child will: 1. Use crayons to draw a picture of our school. 2. *Unerline and color the two pictures in each row that are alike. 3. Color the Indian girl and her papoose using red, green, and yellow crayons where indicated by the color words. Seatwork (PM) 4. (1) Color the circles. (2) Cut out the circles and construct bracelets, headbands, a necklace, etc.	3. Add additional review as necessary. 4. Children may need more practice with circles.
III. Reading Fun with Tom and Betty, pp. 20-23 (cont'd)	III. Reading (AM) The child will: PAGE 20 1. Name the children in the picture. 2. Point to filip and Bunny. PAGE 22 1. Point to the first picture in the top row. 2. Name the character in the picture (Susan). 3. Draw a line under the picture that shows what Susan will make. He will do this for each character in the next two rows. (cont'd)	

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
III. Reading (cont'd)	III. Reading (PM) PAGE 23 Draw a line under the picture in each row that tells what the character in that particular row did next. PAGE 20 3. Name the toy (train) that the children are playing with. 4. Say that Tom is the conductor taking a ticket in answer to a teacher-directed question. PAGE 21 Put his finger on the first, second, and third picture when directed to do so by the teacher.	
IV. Math Workbook, pp. 5 and 6 The teacher will work on one-to-one correspondence, using concrete objects, e.g., erasers, pencils, flannelboard, children, rabits, etc. (cont'd)	IV. Math PAGE 5 The child will 1. Trace the dotted matching lines. PAGE 6 1. Select from a large collection of items, a set which is equivalent to the set of four erasers. 2. Match the set of four erasers with the four pencils. He will match one eraser with one pencil in front of the class. 3. Come up to the flannelboard and choose from a large collection of objects a set which is equivalent to the given set (five rabbits) displayed on the flannelboard, e.g., choose, one carrot for each rabbit--five carrots in all. 4. Trace the dotted lines. (cont'd)	

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
IV. Math (cont'd)	IV. Math (cont'd) PAGE 6 (cont's) 5. Draw a carrot for each of the other rabbits. 6. Draw a matching line between the rabbits and the carrots. 7. Fulfill the same objective as listed in box 2, substituting different objects.	
V. Rest, Fine Arts and Storytime (teacher's decision)		
VI. Phonics Reading with Phonics, pp. 8-12 Ee The teacher will talk about the e sound with the children, showing the phonetic picture card for e-ELEPHANT. The teacher will write "e" words the children give her on the board. The teacher will read a list of words from the board and supplement it with the word list on page 9 of Reading with Phonics TE.	VI. Phonics PAGES 8-12 The child will: 1. Name things that begin with "e" 2. Raise his hand when he hears a word that begins with "e." 3. Go to the list of words on the board and underline the "e" sound in words that begin with "e." 4. Write "Ee" on primary lined paper.	

Revised Draft
DAY 6

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VII. Writing The teacher will give the children practice in making circles on large lined chart paper which has been cut into fouths. Make three columns down and three or four rows across. Materials: large lined chart paper	VII. Writing The child will: Make big circles (3 lines tall). He will form two tall sticks (3 lines tall) that will connect the circles: 	
VIII. Science Film "Safety To and From School"		
IX. Art, Music, P.E.		
X. Closing		

Revised Draft
DAY 7

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
1. Opening Exercises (routine)		
II. Seatwork (see Seatwork Folder I, #7) 1. Ditto - Readiness Discrimination 2. *Ditto - Color words (save poorer papers for folder. 3. Ditto - Matching of head to animal 4. Ditto - Nursery rhyme - "Hey, Diddle Diddle"	II. Seatwork The child will: 1. Color the two pictures that are alike. 2. * (1) Cut and paste the color word "RED" under the word "RED" in the first column. (2) Cut and paste the color word "YELLOW" under the word "YELLOW" in the second column. (3) Cut and paste the color work "GREEN" under the word "GREEN" in the third column. 3. Match the animals by drawing a line from the heads to the correct animal. 4. Color the nursery rhyme picture.	
III. Reading Fun with Tom and Betty, pp. 24-29 Manual, pp. 128-132 "Farm Song," TE, p. 131 (cont'd)	III. Reading (AM) The child will: 1. Name the animals. 2. Name the food the animals are eating. 3. Draw a line under the right picture. 4. Draw lines to match pictures that belong together. 5. Sing the "Farm Song" and act out the motions. 6. Show how a pony's feet might sound as he walks, trots, and gallops. (cont'd)	

Revised Draft
DAY 7

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
III. Reading (cont'd) Teacher's manual, p. 141 - say the rhyme and leave out the word to be supplied by the children.	III. Reading (PM) 1. Put his finger on the first picture. 2. Say the name of the Mother Goose rhyme that goes with that picture. 3. Say the rhyme. 4. Say the rhyme with the other children. 5. Say the words that rhyme. 6. Put his finger on the second picture and repeat steps 2, 3, 4. and 5. 7. Continue in the same manner with the third and fourth pictures. 8. Supply missing word. 9. Skip, gallop, hop and jump to the "Mother Hubbard" chant.	
IV. Math Workbook seatwork, p. 7 - matching, equal sets, use of the word rather than the sign. Workbook seatwork, p. 8. Add number 6 to the number song ("Mulberry Bush" tune)	IV. Math The child will: 1. Draw lines to match the objects in the sets (1-to-1 correspondence). 2. Count the objects in the sets to see if each set has the same number. 3. Draw a set that has the same number of objects as the given set in the space opposite the given set. He will draw lines to match the two sets in a 1-to-1 correspondence. 4. Sing the "Mulberry Bush" song and skywrite the numeral. 6. 5. Sing and skywrite all numerals previously learned.	

Revised Draft
DAY 7

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
V. Rest, Fine Arts and Storytime (Teacher's decision) Select a story to read.		
VI. Phonics Reading with Phonics, pp. 8-12 1. Talk about the Ee sound with the children and show the Phonetic Picture Card for "e" words. Write these words on the board as well as words that do not begin with "e." 2. Read the list of words on page 9 of Reading with Phonics, as children watch teacher's lips.	VI. Phonics The child will: 1. Name things that begin with the sound "e." 2. Put his finger on his lips when he hears a word that begins with the "e" sound. 3. Go to the board and draw an egg beside the word that begins with "e." 4. Write "E: and "e" on primary manuscript paper.	
VII. Writing (Directed Activity) Ditto (see Seatwork Folder I, #7) Repeat the pattern.	VII. Writing The child will: 1. Trace the patterns with his finger. 2. Use a crayon or pencil to repeat the pattern.	

Revised Draft
DAY 7

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VIII. Social Studies Reread Day 5 experience chart Read "At School," pp. 17-18 1. Develop an experience chart on "Our Teacher." 2. Begin Fair Unit.	VIII. Social Studies The child will: 1. Express himself in complete sentences giving information about his teacher.	
IX. Art, Music, P.E. - none		
X. Closing (routine)		

Revised Draft
DAY 8

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
1. Opening Exercises "Mulberry Bush Number Song" - number 7 (see Song Folder)	1. Opening Exercises See Opening Exercises Folder 1. The child will skywrite the numeral 7.	
II. Seatwork (see Seatwork Folder I, dittos #8) 1. Ditto - coloring of Little Bo Peep 2. Picture of teacher 3. Ditto - completion of picture 4. Favorite part of "The Three Bears"	II. Seatwork The child will: 1. Color Little Bo Peep without scribbling. 2. Draw his teacher. 3. Draw the missing part of the pictures with a crayon. 4. Draw his favorite part of "The Three Bears."	
III. Reading Reading Readiness, pp. 30-33 (cont'd)	III. Reading The child will: PAGES 30-31 1. Tell the name of the fairy tale presented on these two pages. 2. Find the first picture in his book. 3. Say the names of the bears. 4. Say and point out which bear is the biggest, the smallest and in-between. 5. Take the parts of the characters in the story of "The Three Bears." (cont'd)	

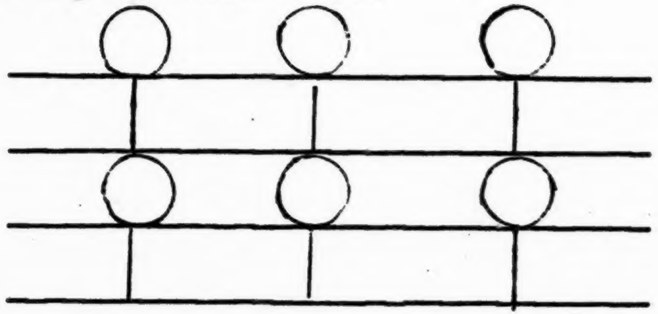
Revised Draft
DAY 8

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
III. Reading (cont'd)	III. Reading PAGE 32 1. Point to the pictures that belong to the story of "Goldilocks." 2. Say that the other two pictures go with the stories "Little Red Riding Hood" and "The Three Little Pigs." PAGE 33 1. Point to the first picture. 2. Say whether the pictures are funny and why.	
IV. Math Workbook, p. 9	IV. Math The child will: PAGE 9 1. Tell if there are more chairs than people in the room. 2. Count how hmany more chairs there are than people in the room. 3. Tell if there are more boys than there are girls (or vice versa). 4. Count how many more boys there are than girls (or vice versa). 5. Draw lines from the set of balls to the set of seals. 6. Not connect one seal with two balls (or vice versa). 7. Draw matching lines in the two remaining boxes.	Some groups may take more pages if ready.
V. Rest, Fine Arts and Storytime (Teacher's decision)		

Revised Draft
DAY 8

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VI. Phonics	VI. Phonics	
Reading with Phonics, pp. 15-17	The child will:	
1. The teacher will talk with the children about the "ŏ" sound and show the Phonetic Picture Card on "ŏ" - OSTRICH. Have the children name things that begin with "ŏ." List the 'o" words given by the children on the board.	1. Name things that begin with "o" as in ostrich.	1. Might need review on following day.
2. Read the list of words from the board and supplement this list with the word list on page 15 of Reading with Phonics TE.	2. Raise his hand when he hears a word that does begin with the "ŏ" sound as in ostrich.	
Materials: Primary Manuscript paper.	3. Go to the board and underline the "ŏ" if it is present at the beginning of words.	
	4. Write "O" and "o" on primary paper.	4. This activity may be too difficult

Revised Draft
DAY 8

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VII. Writing 1. Making and decorating of faces. Demonstrate by doing one with class:  **Materials**: chart paper with widely-spaced lines.	VII. Writing 1. Make circles and sticks and decorate by putting faces on them.	
VIII. Social Studies Read pp. 28-35, At School 1. Develop an experience chart about the custodian.	VIII. Social Studies The child will: 1. Dictate what the custodian does at school. 2. Read, with the teacher, the story the class has written.	

Revised Draft
DAY 8

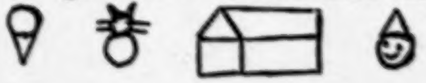
LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VIII. Science Experiment: Have a box full of blocks or books moved to another part of the room, being sure to keep a wagon nearby. Encourage the children to suggest and try out ways to move the box. After the children have experimented, ask the children to state in their own words the problem, ways to overcome the problem, and what they have learned (the use of wheels).	VIII. Science The child will: 1. Try to move a heavy box of toys. 2. Tell why the box could not be moved. 3. Tell how the box could be moved. 4. Put the toys in a wagon and pull it across the room.	
IX. Art, Music, P.E. - none		
X. Closing		

Revised Draft
DAY 9

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
I. Opening Exercises (see Opening Exercises Folder) "Mulberry Bush Number Song" (see song Folder)	I. Opening Exercises The child will: 1. Sing Verse 1 of "America." 2. Sing the "Mulberry Bush" song for number 8 and skywrite the numeral.	
II. Seatwork (see Seatwork Folder, dittos #9) 1. Ditto - blue flower to color. 2. Picture of custodian. 3. Ditto - classification of animals. 4. Illustration of "Monkeys and Crocodile" (read during Fine Arts).	II. Seatwork The child will: 1. (1) Find the blue crayon (the one that matches the blue color the teacher holds up). (2) Outline the flowers with blue crayon and color the flowers blue. (3) Trace the dotted lines with blue crayon in order to write the word "blue." 2. Use his crayons to draw the custodian's picture. 3. Classify animals by cutting and pasting (e.g., all monkeys together). 4. Draw the two parts of the poem.	

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
III. Reading Readiness Book, pp. 34-39	III. Reading (AM) PAGES 34-35 The child will: 1. Name the objects in the first row. 2. Tell how the objects are alike (sound alike). 3. Say another word that sounds like "pan." 4. Name the pictures in the second row. 5. Say the rhyming words. 6. Name the objects in the last row. 7. Say the rhyming words in the last row. PAGES 36-37 1. Point to the first picture. 2. Name the people in box 1. 3. Tell what the children are doing. III. Reading (PM) PAGES 38-39 1. Circle the one that is different with crayon on plastic.	
IV. Math Workbook, p. 10	IV. Math The child will: 1. Draw lines to match sets in second and third rows (one-to-one correspondence).	
V. Rest, Fine Arts and Storytime Read poem "The Monkeys and the Crocodile" (see poem folder)		

Revised Draft
DAY 9

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VI. Phonics Reading with Phonics, pp. 15-17 Talk with the children about the "ŏ" sound and show the Phonetic Picture Card for "ŏ" - OSTRICH. List the things the children name on the board. Read the list of words on page 15 of Reading with Phonics TE as children watch teacher's lips. Materials: primary manuscript paper	VI. Phonics The child will: 1. Name things that begin with "ŏ." 2. Put his finger on his lips when he hears a word that begins with "ŏ." 3. Make a ○ on the board beside the words that start with "ŏ." 4. Write "O" and "o" on primary manuscript paper.	
VII. Writing Chalk Talk - 0 / 1 figures. Have the children go through basic movement and decorate - e.g., O, V,  Materials: unlined newsprint	VII. Writing The child will: 1. Use a crayon to make circles, slant lines, and sticks on primary chart paper, following teacher. 2. Make and decorate objects based on basic strokes.	
VIII. Social Studies Film - Day at the Fair		

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VIII. Science 1. Have the children look for objects with wheels in a magazine. Materials: magazines	VIII. Science The child will: 1. Look for and cut out pictures in magazines that illustrate the use of wheels. He will paste these pictures on a chart entitled "Go."	

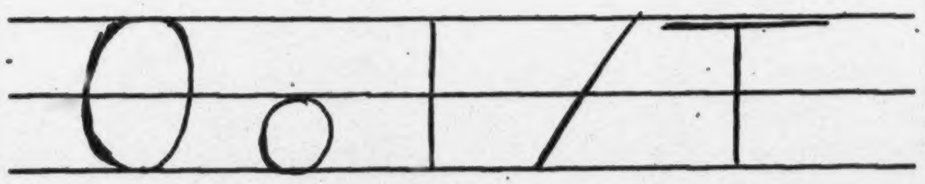
Revised Draft
DAY 10

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
I. Opening Exercises Add number 9 of "Mulberry Bush Number Song" (see Song Folder)	I. Opening Exercises 1. Sky write the numeral 9.	
II. Seatwork (see Seatwork Folder #2, dittos #10) 1. Ditto - color paper *2. Ditto - Matching shapes (Place in child's folder) 3. Ditto - Finding things that are different.	II. Seatwork The child will: 1. Read the color words and color the picture accordingly. *2. Draw lines to match the shapes that are alike. He will color shapes that are alike. 3. Cross out the picture in each row that is different.	
III. Reading TE, pp. 163-165, pp. 40-41 Read the poem "The Red Wagon," p. 165 (cont'd)	III. Reading PAGES 40-41 The child will: 1. Place the word card "TOM" under the picture of Tom. 2. Tell what Tom is using to clean his wagon. 3. Tell why Tom is wearing rubbers. 4. Tell each thing he sees in the picture of Tom. 5. Use his pointer finger to trace the lines forming the word "TOM." (cont'd)	

Revised Draft
DAY 10

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
III. Reading (cont'd) TE, pp. 166-170, pp. 42, 43	III. Reading PAGES 42-43 1. Move his hands from left to right under the pictures. 2. Say the boy's name (Tom) that begins with the consonant "t" as in tack, tail, tent and top. 3. Say the names of the pictures in the box under the "table." 4. Say the names of the pictures in the box under the "turkey." 5. Point to each picture as he says the matching word.	
IV. Math TE, p. 22, pp. 11-12	IV. Math PAGES 11-12 The child will: 1. Draw matching lines (one-to-one correspondence). 2. Tell which set has more pictures. He will tell how many more pictures it has. 3. Draw a kite for the extra child. 4. Draw lines to match the pictures at the bottom of the page. 5. Tell which set has more pictures. He will tell how many more pictures it has. 6. Draw one more object.	
V. Rest, Fine Arts and Storytime (Teacher's decision)		

Revised Draft
DAY 10

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VI. Phonics -Uu Talk with the children about the "u" sound and show the Phonetic Picture Card of "u" - UMBRELLA. List the things the children name on the board. Read the list of words from the board and supplement it with the word list on page 17 of Reading with Phonics TE as children put heads down and listen.	VI. Phonics The child will: 1. Name things that begin with "u." 2. Raise hands when he hears words that begin with "u." 3. Go to board and underline the short "u" sound in words that have it. 4. Write capital and small "u" on manuscript paper.	
VII. Writing (directed) Pupils have big chart paper the size of their desk. 1. Have the children draw circles and sticks as follows:  2. Have the children write the word "TOM" on chart Materials: chart paper (size of children's desks)	VII. Writing The child will: 1. Draw circles and sticks on lined chart paper. 2. Write the word "TOM" on chart paper.	

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VIII. Social Studies 1. Help the children establish what types of items will be in the fair exhibit for the rooms, e.g., food, flowers, hobby equipment, etc., and what items the children think are needed. Remind the children to bring items tomorrow.	VIII. Social Studies The child will: 1. Name items to bring for the fair exhibit in the following categories: (1) food (2) flowers (3) hobbies	
VIII. Science Dramatize getting ready for school. Have various children act out ways of "getting ready." Use the cut out doll and an appropriate setting for the five main aspects of the routine. Use flannel cut-outs and the flannel board after the following concepts have been established: getting up getting washed (cont'd)	VIII. Science The child will: 1. Act out his ways of getting ready for school. 2. Manipulate the flannel cut-outs in the proper sequence. (cont'd)	

LESSON PLAN AND TEACHER OBJECTIVES	PUPIL OBJECTIVES	REMARKS
VIII. Science (cont'd) getting dressed eating breakfast brushing teeth Materials: Flannel board Flannel cut-outs	VIII. Science	
IX. Music Making Music Your Own TE, p. 3 Record - "The Green Dress"	IX. Music 1. The children will say the words in unison. 2. The girls will sing with the record. 3. The boys will sing with the record. 4. All children will sing with the record. 5. The children will use a complete sentence to tell what clothing they are wearing. They will create new verses.	
X. Closing		

BIBLIOGRAPHY

1. Allport, G. W. Personality: A Psychological Interpretation. New York: Holt, Rinehart and Winston, Inc., 1937.

1a. Anastasi, Anne. Testing Problems in Perspective. Washington, D. C.: American Council on Education, 1966. 671 pp.

2. Association for Supervision and Curriculum Development. Strategy for Curriculum Change. Washington, D. C.: The Association, 1965.

3. ________. Influences in Curriculum Change. Washington, D. C.: The Association, 1968. 116 pp.

4. Bellack, Anna A., et al. The Language of the Classroom. New York: Teachers College Press, Columbia University, 1966. 274 pp.

5. Bloom, Benjamin S. Taxonomy of Educational Objectives, Handbook I: Cognitive Domain. New York: David McKay Co., 1956. 207 pp.

6. Bloom, Benjamin S., et al. Compensating Education for Cultural Deprivation. New York: Holt, Rinehart and Winston, Inc., 1965. 179 pp.

7. Bugelski, R. B. The Psychology of Learning Applied to Teaching. Indianapolis: The Bobbs-Merrill Co., Inc., 1964. 278 pp.

8. Crandall, V. J., et al. "Maternal Reactions and the Development of Independent and Achievement Behavior in Young Children," Child Development. Vol. 31:243-51, 1960.

9. Crow, Lester D., and Alice Crow. Human Development and Learning. New York: American Book Co., 1956. 578 pp.

10. Eller, William. Relationships Between Certain Socio-economic Factors and the Experience Backgrounds of First-grade Children, unpublished. Ph.D. dissertation. State University of Iowa, 1950.

11. Frahm, Izetta. Reading Readiness as Conditioned by Home Background, unpublished M.A. thesis. State University of Iowa, 1946.

11a. Gage, N. L. Handbook of Research on Teaching. Chicago: Rand McNally, 1963. 1218 pp.

12. Gagne, Robert M. The Conditions of Learning. New York: Holt, Rinehart and Winston, Inc., 1965. 308 pp.

13. Guilford, J. P. "The Three Faces of Intellect," The American Psychologist. Vol. 14:469-479, 1959.

14. Hamachek, Don E. *Motivation in Teaching and Learning*. Washington, D. C.: National Education Association, ACT.

15. Havighurst, Robert J. "Education Among American Indians: Individual and Cultural Aspects," *Annals of the American Academy of Political and Social Sciences*. 311:105-15, 1957.

16. Hilgand, Ernest R. "A Perspective on the Relationship Between Learning Theory and Educational Practices." *Theories of Learning and Instruction*, National Society for the Study of Education, Chicago: University of Chicago Press, 1964. pp 402-415.

17. Hoffer, Eric. *The Ordeal of Change*, New York: Harper and Row, publishers, 1959, 150 pp.

18. Hill, Joseph E., and August Kerber. *Models, Methods, and Analytical Procedures in Educational Research*. Detroit: Wayne State University Press, 1967. 550 pp.

18a. Irvine, S. H. "Towards a Rationale for Testing Attainments and Abilities in Africa," *British Journal of Educational Psychology*. 36:24-32, February, 1966.

19. Jewell, Lucille. *A Study of the Reading Readiness of Underprivileged Children*, unpublished M.A. thesis, State University of Iowa, 1941.

20. Kearney, Nolan C. *Elementary School Objectives*. New York: Russell Sage Foundation, 1953. 189 pp.

21. Krathwohl, David, *et al*. *Taxonomy of Educational Objectives, Handbook II: Affective Domain*. New York: David McKay Co., 1964. 196 pp.

22. Mager, Robert F. *Preparing Objectives for Programmed Instruction*. San Francisco: Fearon Publishers, Inc., 1962.

23. Meyers, R. E., and E. P. Torrance. *Can You Imagine*. Boston: Ginn and Co., 1965.

24. Murray, Henry A. *Exploration in Personality*. New York: Oxford University Press, 1938. 761 pp.

25. Rosenthal, Robert, and Lenore Jacobson. "Teacher Expectations for the Disadvantaged," *Scientific American*. Vol. 218: 19-23, April, 1968.

26. Simpson, Elizabeth Jean. *The Classification of Educational Objectives, Psychomotor Domain*. Washington, D. C.: USOE Project, Contract No. OE 5-85-104. 1966.

27. Taba, Hilda. _Curriculum Development Theory and Practice_. New York: Harcourt, Brace and World, Inc., 1962. 526 pp.

28. Torrance, Paul E. _Education and Creativity Progress and Potential_. New York: McGraw-Hill Book Co., 1964.

SUGGESTED READING LIST

Atkinson, John W., and Norman T. Feather. A Theory of Achievement Motivation. New York: John Wiley and Sons, 1966.

Cook, Myra B., et al. (ed.). The Come-Alive Classroom: Practical Projects for Elementary Teachers. West Nyack, N.Y.: Parker Publishing Co., Inc., 1967.

Darling, David W., and Dwain M. Estes. (ed.). Improving Educational Opportunities of the Mexican-American. San Antonio, Texas: Southwest Educational Development Laboratory, 1967.

Dinkmeyer, Don, and Rudolf Dreikurs. Encouraging Children to Learn. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963.

Gray, Susan, et al. Before First Grade: The Early Training Project for Culturally Disadvantaged Children. New York: Teachers College Press, Columbia University, 1966.

Hammond, Sarah, et al. Good Schools for Young Children. New York: Macmillan Co., 1963

Harrington, Michael. The Other America: Poverty in the United States. New York: Macmillan Co., 1962.

Henry, Jules. "A Cross-Cultural Outline of Education," Current Anthropology. Vol. 1:267-305, July, 1960

Hertzig, Margaret E., et al. "Class and Ethnic Differences in the Responsiveness of Preschool Children to Cognitive Demands," Monograph of the Society for Research in Child Development. Serial No. 117, Vol. 33, No. 1, 1968.

Hirsch, Katrina, et al. Predicting Reading Failure. New York: Harper and Row, Publishers, 1966.

Hochberg, Julian E. Perception. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1964.

Holt, John. How Children Fail. New York: Dell Publishing Co., Inc., 1964.

Ilg, Frances L., and Louise B. Ames. School Readiness, Behavior Tests Used at the Gesell Institute. New York: Harper and Rowe, Publishers, 1965.

Jessor, Richard, and Seymour Feshbach. Cognition, Personality, and Clinical Psychology. San Francisco: Jossey-Bass, Inc., 1967.

Lewis, Oscar. The Children of Sanchez. New York: Random House, 1960.

Madsen, William. The Mexican-American of South Texas. New York: Holt, Rinehart and Winston, Inc., 1964.

Money, John (ed.). The Disabled Reader, Education of the Dyslexic Child. Baltimore: The Johns Hopkins Press, 1966.

Moore, Elenora. Fives at School: Teaching in the Kindergarten. New York: McGraw-Hill Book Co., 1959.

Otto, Wayne, and Richard McMenemy. Corrective and Remedial Teaching, Principles and Practices. Boston: Houghton Mifflin Co., 1966.

Passow, A. Henry (ed.). Education in Depressed Areas. New York: Teachers College Press, Columbia University, 1963

Pratcher, Mary H. Teaching in the Kindergarten, How to Use Community Resources as a Learning Laboratory. New York: Exposition Press, 1968.

Riessman, Frank. The Culturally Deprived Child. New York: Harper and Row, Publishers, 1962.

Sexton, Patricia. Education and Income. New York: The Viking Press, 1961.

Silberman, Charles E. Crisis in Black and White. New York: Random House, 1964.

Stenhouse, Lawrence. Culture and Education. New York: Weybright and Talley, 1967.

Sutton, Elizabeth. The Migrant Child. Department of Health, Education, and Welfare, Office of Education: Washington, D.C.: Government Printing Office, 1963.

Sylvester, Robert. Common Sense in Classroom Relations. West Nyack, N.Y.: Parker Publishing Co., Inc., 1966.

Wann, Kenneth, Miriam Dorn, and Elizabeth Liddle. Fostering Intellectual Development in Young Children. New York: Teachers College Press, Columbia University, 1962.